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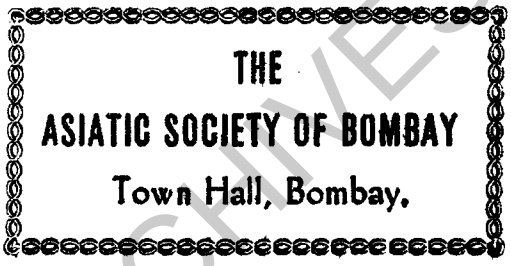

NATIONAL ARCHIVES OF INDIA

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AN

ACCOUNT OF THE KURNOOL DISTRICT

BASED ON AN

ANALYSIS OF STATISTICAL INFORMATION RELATING THERETO,

556

AND ON PERSONAL OBSERVATION.

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Prepared under the orders of Government.

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

1889.

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NOTE.

THIS account of the Kurnool district is the result of an attempt to throw into a concise and systematic form the existing statistical records regarding that district, supplemented by local observation especially in reference to agriculture. The orders regarding the preparation of it have been varied from time to time. At first in 1885 it was proposed to prepare a purely agricultural survey of the district, which was, according to a decision of 1886, to be ultimately worked up, with a separately prepared famine analysis, into an account such as has been attempted in this case. This agricultural survey would have entered largely on questions of rural economy, and so have overlapped the scope of the famine analysis then being prepared in the Director's Office under the orders of the Government of India. For the purpose of it the division of the district into agricultural tracts was shown to be most desirable and was approved of; but, after work had been prosecuted for some time to that end, it was proposed, and I was directed, to abandon the system. Accordingly the preparation of a simple account of the agricultural practices of the district, which did not deal with economic, administrative, social or fiscal matters, was begun more than two years ago, but, when towards the end of 1886 much progress had been made on it, it was given up, as later orders again reiterated those first issued, and at the same time the whole work of preparing, both an Analysis of the district with a view to famine protection and a survey of its agricultural condition, was entrusted to me.

In the same year a small special establishment was organised to collect further information regarding (1) agricultural practices, (2) the subterranean water-supply, and (3) the live and dead stock kept in the district. This work was completed in May 1887, but it was not until the latter end of that year that the compilation of the statistics referred to in this account was commenced on the tractwar plan. The latter work was not finished till the beginning of the current official year, and then only was the completion of this paper possible.

In many respects, the paper might have been expanded, but it has been a point steadily kept in view to make it as brief as possible: in others, no doubt further information may be seen to be desirable. But it is, I submit, an honest attempt to carry out, as far as is feasible, the orders of the Government of India to show, by an analysis of their condition, those portions of the country which are most precariously situated, and those which are protected from drought. It does not, it is true, carry the analysis down to villages; which on the lines of this compilation would be a most stupendous task, but one which is in the future to be undertaken, as the tract plan is to be given up. This account may also perhaps serve as a basis for future action towards the amelioration of the condition of the people, and their protection, as far as is humanly possible, from famine, as the conditions met with in different tracts are clearly indicated. It is also, I believe, more than was asked for in some respects, in that it is, on the whole, a fairly full account, and one giving information on many points such as have never been brought out before, relating to the rural economy, and agricultural systems of any fairly-defined and homogeneous tract of country, in India,—treated not from a revenue but from an agricultural point of view.

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Certain obvious and great deficiencies no doubt will be found in the paper, but, it is submitted that much must be allowed for my want of past experience in and familiarity with the land records, which has rendered my task in utilising them the more difficult, and to the fact that it is the first attempt of its kind in India. Although in the text the district has generally only been treated by tracts, the appendices give full information as to the sections of the tracts lying in each taluk, which will, I think, suffice, as it appears unnecessary to repeat the discussion of the condition of the different sections of the tracts in each taluk. In every case, the village has necessarily been the unit, and, though there has, in some cases, arisen therefrom an obvious difficulty in carrying out the plan of agricultural tracts, the error caused by it has been reduced as far as possible, by careful classification of the villages. Details of the principles of classification will be found at the beginning of Chapter V.

In cases where conditions are the same, or the records are only available for the whole district, the tract plan has necessarily been set aside, and the district treated as a whole.

DEPARTMENT OF
LAND RECORDS AND AGRICULTURE,
MADRAS, *July* 1888.

(Signed) C. BENSON, M.R.A.C.,
Assistant Director.

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AN ACCOUNT OF THE KURNOOL DISTRICT

BASED ON AN

ANALYSIS OF STATISTICAL INFORMATION RELATING THERETO,

AND ON PERSONAL OBSERVATION.

CHAPTER I.

THE KURNOOL DISTRICT.

The district consists of Kurnool proper, which remained in the hands of the Nawabs of Kurnool till 1839, corresponding to the present taluks of Rámallakót, Nandikótkur, Nandyál and Sirvel, and of parts of the old Bellary and Cuddapah districts which came under British rule at the settlement of 1800. The Nawab of Kurnool was dispossessed in 1839 for rebellious conduct, and his territories placed in charge of a Commissioner, who was replaced by an Agent to the Governor of Fort St. George in 1843. The agency administration lasted up to 1858-59, when the taluks of Cumbum, Dupad, and Koilkuntla from the Cuddapah district, and Panchapaliem from the Bellary district, were added to the territories previously taken over from the Nawab, and the whole formed into the present collectorate. In 1860-61, ninety-nine villages were transferred to Nellore, whilst ten from Bellary and six from Cuddapah were added to the district. One village was retransferred to Bellary in 1874-75 and one added to the Sirvel taluk from Cuddapah in 1878-79.

Position.—The eastern boundary of the district is separated from the sea by the Nellore and Kistna districts; on the north the Tungabhadra and Kistna rivers separate it from the Nizam's dominions; on the west and south it is bounded by the districts of Bellary, Anantapur and Cuddapah. It lies between 14° 53′ 25″ and 16° 18′ 25″ North latitude, and 77° 22′ 52″ and 79° 36′ 52″ East longitude. The area of the district is 7,769 square miles, including the Native State of Banganapalle, the area of which is 255 square miles. Of the area remaining (7,514 square miles), 2,480 square miles or about one-third are forest and 950 square miles are not available for cultivation, leaving 4,084 square miles or a little more than half the whole available for cultivation, a considerable proportion of which is not occupied.

Physical aspects.—The greatest breadth of the district from East to West is about 110 miles, and the greatest length from North to South, about 80 miles. In the former direction the district is divided into three sections by two ranges of hills, which run in roughly parallel lines from S.S.E. to N.N.W. through it. Of these ranges, the westernmost forms the boundary of the northern extension of the Mysore plateau, and cuts off the greater part of the Pattikonda and Rámallakót taluks from the rest of the district. This portion forms the western section and is drained, for the most part, towards the north into the Tungabhadra by the Hindri and a few small streams; a small portion to the south draining into the Pennér. In the southern parts of this section the country is 'much broken up by stream valleys, undulating, and everywhere dotted with rocky bosses and tors, or with occasional long ridges with wall-like and serrated crests which stand out with peculiar distinctness.' * This is the more elevated portion of the section, and at Piapalle is 1,750 feet above the sea. Northwards and

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* The quotations relating to the physical geography and geology of the district are taken from Dr. King's account in the Memoirs of the Geological Survey.

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westwards the country becomes more open and less broken up, until near Kurnool an almost unbroken bare 'cotton soil' plain is entered on. At Kurnool, the country is only about 900 feet above the sea.

The Erramalas, which cut off the taluks above named from the rest of the district, 'are a series of low, red, cliff-scarped plateau-topped hills,' which rising from the Tungabhadra east of Kurnool stretch across the district to its southern boundary near Gooty. They scarcely at any point exceed 2,000 feet in height, but on the western edge rise abruptly from the table-land lying to the west. They are broken by two marked valleys; one near Rámallakót, where a peculiar hill of specular iron ore marks the line of fault which forms it; and one near Piapalle, which separates the broken country surrounding the Uppalapad plateau from the rest of the range. The hills vary in width from a few miles near Kurnool to about 20 miles in the south, but throw out several promontories into the central section of the district. They are in places covered with a fair amount of good soil under cultivation; but, where the rocks are exposed, owing to their hard intractable nature, only support a thin scrub. They are drained almost entirely towards the east into the valley of the Kundér.

East of the Erramalas lies a long valley stretching the whole length of the district from the Kistna to the Cuddapah frontier. This forms the central section of the district, and is bounded on the east by another range of mountains. It comprises the greater part of the Nandikótkur, Nandyál, Koilkuntla and Sirvel taluks. On the western side, the Erramalas sink gradually down into a widespread 'cotton soil,' treeless plain, and on the east the Nallamalas rise up much more abruptly with, for the most part, well-wooded slopes. The northern end of this valley, where it opens out towards the Hyderabad territory, drains into the Kistna, and in this part is comprised the greater portion of the Nandikótkur taluk. The remainder of the valley is drained to the south by the Kundér and its tributaries. This section lies from 700–800 feet above sea level.

"The Nallamalas are the chief range of the district; starting from the Cuddapah frontier they run in a wide belt of thickly-wooded peaks and ravines, plateau and valleys, broad basins and mountain-masses due north to the Kistna; beginning with a width of some ten miles, the belt broadens out as it runs northwards until, at the Mantrala Kanama, it has reached to thirty; thence it swings east and west like the two arms of a great T with its western arm fronting the Kistna for fifty miles of its length and with its eastern bounding the district up to the north-easternmost point of Márkápur,—a wild, unhealthy, hardly-known tract, and yet studded with the ruins of walled cities, tanks and temples." Here are some 2,000 square miles of continuous forests, which cover almost the whole range. The western face is fairly covered, except at the southern extremity of the district; the inner portions are clothed with jungles, but are only partially explored, whilst the eastern face, and especially in the Márkápur taluk, is often bare. These hills attain a height of 3,000 feet in several places, and are drained to the east chiefly by the Gundlakamma, which, after leaving the hills, flows northwards along the border of the district, and by the Sagilér which flows southwards into the Pennér.

The eastern section of the district lies beyond these hills, and comprises the taluks of Cumbum and Márkápur. It is, for the most part, much broken up by low parallel hill-ridges,—off-shoots of the Nallamalas,—and is bounded in its southern part to the east by the Veligondas, which also run parallel to those hills. The western portion of the section gives "a series of narrow flat valleys winding among some rather elevated mountain masses, which are succeeded to the eastward and southward by wider plains with lessening hill-ridges." The drainage is mostly collected by the Gundlakamma, only a small portion near Giddalur and to the south being taken by the Sagilér.

Geology and Soils.—The upland terrace sloping towards the north, which forms the Pattikonda and Rámallakót taluks, is composed of crystalline rocks similar to those of which the greater part of Southern India is made up. In the southern parts, the soils have generally been derived directly from the underlying rocks, and are naturally very poor and gravelly. Towards the north, however, the rocks are more or less completely covered by 'cotton soil,' and have but little effect on the soil; this is especially so near Kurnool where the soil is nearly pure régada. Eastwards of this terrace, from near Kurnool, runs the cliffy escarpment of the Erramalas, gradually becoming higher towards the southern boundary of the district, which marks the limit

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of a great series of transition rocks of aqueous origin, named from the districts in which they are found 'the Kaddapah and Karnul formations,' consisting of a great succession of clay-slates, quartzites, lime-stones, and shales. These rocks form the substructure of parts of the Pattikonda and Rámallakót taluks (generally elevated table-lands) and of the whole of rest of the district. The 'Karnul' rocks are over a great part of their area covered by a wide spread of 'cotton soil.' This is most clearly seen in the Nandyál valley. But on the western side of the valley on and around the lower slopes of the Erramalas, the rocks are often left bare of soil, and such is their intractable nature that they only produce a scanty growth of scrub. The greater part of the hills is made up of quartzites belonging to the 'Kaddapah' series of a very intractable nature, and though often the soils are good where the tops of the hills are capped by patches of 'cotton soil,' elsewhere they are poor, thin and hungry; they are often red loams, sands and gravels colored from the amount of iron in the rocks from which they have been formed. Where the long Nandyál valley opens out to the north towards the Kistna, on the higher lands about the water-parting between the drainage towards that river and towards the south, the soils are very mixed; in places tolerably extensive patches of 'cotton soil' hiding the underlying rocks, and in others, the soil being of a pseudo-lateritic gravelly nature or containing large amount of slate which is derived from the 'Nandyál shales,' which occupy that part of the district. This pseudo-lateritic gravel is characteristic of the part of the country referred to and forms a soil, locally called 'Baraka,' which is generally of poor quality, thin and very subject to drought.

Further south in Nandyál and Koilkuntla and parts of Sirvel, the 'cotton soil' covers the whole of the rocks which form the bed of the Nandyál valley. Here the rocks appear to have little effect on the overlying soil which gives its peculiar character to the country. This sheet of soil is only broken by narrow strips of more recent alluvium along the banks of the streams and rivers, which forms a rich brown loamy soil. There is, however, but little of the latter. Further east, all along and for some distance out from the foot of the Nallamalas, the rocks are covered with a soil derived from the quartzites of the 'Kaddapah' formation which make up that range, and the underlying rocks have little or no effect on its nature. They are often very deep and are generally free loams and sands of fair quality. They are often ferruginous, but are better soils than the common red soils formed from the gneiss of Southern India.

East of the Nallamalas, the flat country is, for the most part, composed of clay slates "chloritic or talcose in their constitution, and therefore probably giving a large percentage of magnesia, which is not a desirable element in soils." The soils are generally poor and thin, although occasionally improved by the presence of calcareous matter. In a few places this general poverty is relieved by the presence of small areas of 'cotton soil' or of river alluvium, but, for the most part, the soils are clays and sandy deposits, in some places much mixed with quartz gravel.

Mineral resources.—The district is rich in minerals, but hitherto they have not been generally much worked. *Diamonds* are still worked on a small scale at Banganapalle and Rámallakót, but there are deserted workings to be found in many other localities. *Silver* has, according to assays of galena raised in the district, been found in large quantities with that mineral. *Lead*, in the form of galena, in association with sulphate of barytes, occurs near Gazulapalle in the Nandyál taluk, where it can apparently be easily worked, and at Koilkuntla in a hard siliceous matrix which would require to be crushed. *Iron ores* occur in great abundance in both the Cuddapah and Kurnool groups of rocks. The best ore is found at Gannikat, a hill not far from Rámallakót which includes large veins of pure specular ore. All along the western flank of the Nallamalas, ferruginous quartzites crop out which have been much worked, but now only a few furnaces are kept up, the cost of extracting the metal rendering it impossible for the native workers to compete with imported iron. *Cerium* has been found in conjunction with the galena referred to above, but whether it exists in abundance is not known. *Serpentine* marbles, which when worked have a very ornamental appearance, are found in several localities. Limestones, especially from the Kurnool series of rocks, are employed largely as building stone. *Barytes* is the principal gangue stone of the lead mine at Gazulapalle, and could be obtained in large quantities there.

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Administrative divisions.—The district is divided for administrative purposes into eight taluks, which are subdivided into 789 villages as shown in the following statement of the number of inhabited and uninhabited villages with their hamlets both Government and Shrotriem, in the several taluks :—

Taluks.	Ryotwar or Government Villages.				Shrotriem Villages.			
	Villages		Hamlets		Villages		Hamlets	
	Inhabited.	Uninhabited.	Inhabited.	Uninhabited.	Inhabited.	Uninhabited.	Inhabited.	Uninhabited.
(1) Pattikonda	100	2	177	38	7	..	..	..
(2) Rámallakót	101	..	110	19	8	..	..	..
(3) Nandikótkur ..	94	1	55	22	6	..	..	..
(4) Nandyál	92	..	52	16	..	..	..	..
(5) Koilkuntla	83	1	41	16	1	1	..	..
(6) Sirvel	85	1	55	23	..	..	..	..
(7) Cumbum	74	..	170	28	27	10	8	..
(8) Márkápur	66	..	117	63	12	17	..	..
Total ..	695	5	777	225	61	28	8	..

The above figures are according to the quinquennial return for the year 1881-82. In the census report of 1881, the total number of villages is entered as 772. The Shrotriem villages are villages assigned to individuals on favorable tenures by former Governments.

The following statement shows the area and population of the eight taluks with the inhabited villages classified according to their population. These figures have been adopted from the village census tables of 1881. It will be observed that the total number of inhabited villages comes out here as 777 :—

Taluks.	Area in square miles.	Population.		Inhabited Villages having a population (including floating population) of						
		Total.	Per square mile.	Below 1,000.	1,000 and below 2,500.	2,500 and below 5,000.	5,000 and below 7,500.	7,500 and below 10,000.	20,000 and upwards.	Total.
(1) Pattikonda	1,134	105,438	93	72	31	3	1	..	..	107
(2) Rámallakót ..	846	94,698	112	85	21	1	..	..	1	108
(3) Nandikótkur ..	1,322	72,741	55	97	17	1	..	..	..	115
(4) Nandyál	854	78,282	92	71	19	1	..	1	..	92
(5) Koilkuntla	572	76,296	133	58	25	2	..	..	..	85
(6) Sirvel	613	57,197	93	74	13	2	..	..	..	89
(7) Cumbum	1,056	109,851	104	55	40	5	1	..	..	101
(8) Márkápur	1,117	84,048	75	41	35	4	..	..	..	80
Total ..	7,514	678,551	90·30	553	201	19	2	1	1	777

The population will be more fully referred to below, but it may be observed that Nandikótkur is the largest of all the taluks, but it holds the last place as regards density of population on total area with 55 to the square mile. The most thickly-populated taluk is Koilkuntla with 133 to the square mile. The average density of population for the district was 90·30 to the square mile in 1881. The Cumbum and Márkápur taluks had the largest number of villages and towns having a population of above 1,000. There are no towns or villages in the district with a population between 10,000 and 20,000, and in 1881 there were only four with a population exceeding 5,000; they are specified in the margin.

Taluk.	Name of town or village.	Population.
Pattikonda ..	Maddikera	6,181
Rámallakót ..	Kurnool (Municipality) ..	20,329
Nandyál ..	Nandyál (including Kottapalle, Moolasagaram and Tékya).	8,907
Cumbum ..	Cumbum	7,170

In the following table particulars are given regarding the area of each taluk as it at present stands.

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Taluk.	Total area in acres.	Arable Area in Acres.				Area not available for cultivation.		Forests.	
		Occupied, 1886-87.	Available for cultivation.	Total.	Per cent. of total area.	Acres.	Percentage.	Acres.	Percentage.
Pattikonda	725,760	402,518	154,643	557,161	76·77	120,119	16·55	48,480	6·68
Rámallakót	541,440	325,025	77,276	402,301	74·30	79,959	14·77	59,180	10·93
Nandikótkur	846,080	275,950	110,335	386,285	45·65	50,229	5·94	409,566	48·41
Nandyál	546,560	238,810	48,199	287,009	52·51	65,000	11·89	194,551	35·60
Koilkuntla	366,080	231,775	9,158	240,933	65·81	53,961	14·74	71,186	19·45
Sirvel	392,320	200,458	29,020	229,478	58·49	88,663	22·60	74,179	18·91
Cumbum	675,840	189,166	44,735	233,901	34·61	59,633	8·82	382,306	56·57
Márkápur	714,880	191,821	84,881	276,702	38·71	90,507	12·66	347,671	48·63
Total ..	4,808,960	2,055,523	558,247	2,613,770	54·35	608,071	12·65	1,587,119	33·00

It will be seen that Pattikonda has much the largest proportion of arable area with Rámallakót next; Koilkuntla and Sirvel follow with a much smaller proportion, whilst in Nandyál and Nandikótkur only about half, and in Cumbum and Márkápur not much more than one-third of the total area is cultivable. Of the total area, 12·6 per cent. is not available for cultivation or is utilised as forest; the proportion being much the largest in Sirvel, after which are Pattikonda, Rámallakót, Koilkuntla and Márkápur, and then with much less Nandyál, Cumbum and Nandikótkur in the order named. The area under forest is very small in Pattikonda and Rámallakót, fair in Koilkuntla and Sirvel, and very considerable in the other taluks. On the whole, a little over half the district only is available for cultivation; one-third is covered by forests and jungles, and the remainder is taken up by rivers, hills, roads, and other uncultivable land.

Forests and fuel-supply.—The area under forests has been given above as 1,587,119 acres or 33 per cent. of the area of the district. This area does not include all the land reserved within village boundaries as fuel and grazing reserves. These by themselves occupy 521,153 acres and are included in the areas for which detailed statistics are available. Of the 608,071 acres which are not available for cultivation 457,693 acres, not included in the fuel and grazing reserves, are also, to a certain extent, capable of producing fuel for domestic use, and afford some grazing for live-stock, as does a large proportion of the land shown as available for cultivation, or over half a million acres more. The forest area proper has not, however, as yet been surveyed nor demarcated, but the latter process is in progress. It is therefore only possible to refer to the forests very generally. In the general description of the physical features of the district given above, the main lines of distribution have been indicated. The Erramalas are not of much account as far as timber goes, as they are now, for the most part, bare and never likely to be very much else; but there are patches of a fair scrub growth on them in places, and for firewood, for rafters and small poles, for barks, and seeing how they stand across the path of the monsoons and how dry the surrounding country is, for climatic reasons, their conservation is not unimportant. The Veligondas, though greener than the Erramalas, are not well wooded, nor are the trees on them of much value, being mainly *Nemmi*,* *Alli*,† *Bira*‡ and others more useful for fruit than timber. Still at Kónapalli, the hills open out a little, and here and there is a more promising growth of *Chirimanu*,§ *Yegi*,‖ and much cut up red Sanders ¶; like the Erramalas therefore these hills are important only for small timber, and for climatic reasons. The Nallamalas are the range that is usually referred to as the Kurnool forests: on them, there are 2,000 square miles of continuous forest. It is from these that the good timber comes, and that the most important revenue must be looked for. Regarding the forests it has been observed:

"This work of reservation is now in progress, and, though no reserves have as yet been finally proclaimed, it is possible to say, with a certain amount of certainty, what they will be; they will be all the hill country of the Veligondas, with part perhaps of the outcrop of scrub that

* Dalbergia Oojeinensis.
† Memecylon tinctorium.
‡ Elæodendron Roxburghii.
§ Anogeissus latifolia.
‖ Pterocarpus marsupium.
¶ Do. santalinus.

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skirts its base towards the south; they will be the whole range of the Nallamalas, excluding perhaps a portion on the eastern side and including a considerable portion of the rich '*terai*' on the west; and they will be a few tracts on the Yerramalai and, except such rights as may be given to the Chentsus, the rights of a few temples, and a few rights of way across some of the smaller passes, they will, I think, be absolutely reserved."*

Along the foot of the Nallamalas on the western side, reaching towards the north, where the jungle is poor, there are extensive stretches of open grass land which furnish excellent grazing. Besides these lands, there are numerous portions of those hills, such as the Pécheruvumaidan,—a plateau in the Atmakúr division of the Nandikótkur taluk,—which are largely resorted to by the cattle breeders of Márkápur and the adjoining taluks of Nellore. Along the eastern slopes of these hills and on the Veligondas and Erramalas, the grazing grounds are but poor, though still capable of supporting a considerable stock of cattle in ordinary years; but the case is worse still in the plains, where there is little or no pasture land of any value.

A scheme for the formation of fuel and fodder reserves in convenient proximity to villages and in one or two compact blocks for each taluk over the whole presidency was proposed in 1883; but this was subsequently modified and rules have been framed under the Forest Act to constitute all unassessed waste lands and such portion of unoccupied assessed lands and lands acquired by Government which may have remained unoccupied for eighteen months and more "reserved lands" and to form fuel and fodder reserves out of them. No grass can be cut or cattle pastured on such lands without the consent of the Collector nor without payment of fees. The only lands, therefore, which will be ordinarily available to the people free of charge for grazing purposes, are lands in their own occupation when not under crop and lands recently thrown out of occupation, along with such special tracts as may be set apart by the Collector for the use of specified villages which contain jungle or forest land in which the villagers concerned have hitherto enjoyed rights of grazing cattle and cutting trees free of charge. The effect of these restrictive rules is certainly to diminish the present facilities enjoyed by the people, but it is certain that by this measure of restriction at no distant date a better and more ample supply of fodder will at a slight cost be secured to the cattle of the district than has been enjoyed by them in the past. During periods of drought the reserves will be thrown open to all cattle, and may be expected to save large numbers of them from starvation and death. No information, however, is available as to the progress made in Kurnool in finally settling these reserves, but the tentative area selected has been noted above, and practically the whole of the area of the district unoccupied for cultivation is available to choose from for this purpose. The extent of this area amounted, on the figures for fasli 1296, to 558,247 acres, excluding poramboke and forests.

In the pastures of the Nallamala forests, the district possesses an unfailing resource for the protection of cattle during drought. Large numbers of cattle were driven to these hills during the famine of 1876–1878, and private enterprise started a trade in fodder by establishing depôts at the foot of the hills for the receipt of the hill grass, which was supplied in head-loads by Lumbádjes and other coolies, and was sold to the public at a profit by cart-loads. A large quantity of fodder was also obtained under the irrigation canal. But by themselves these pastures are not enough to prevent death by starvation among cattle. They are too far removed from many parts of the district, and during the last famine many cattle perished on the road before reaching the hills. An estimate of the anticipated total loss of cattle for each taluk prepared by the local officers after the drought had continued for some time is given in the margin. The figures were not accepted as accurate, and were believed to exaggerate the state of things, but they show, to some extent, the magnitude of the anticipated loss. The only arrangement which will guarantee an adequate measure of relief is the formation of reserves nearer to each taluk and village, and the general preservation and storage of superfluous natural herbage in ordinary seasons in addition to the straw of the cereals now so carefully preserved. This is extremely desirable from another

Taluks.	Percentage of anticipated loss.
Pattikonda	58·33
Rámallakót	46·21
Nandikótkur	47·94
Nandyál	52·10
Koilkuntla	55·93
Sirvel	28·58
Cumbum	79·36
Márkápur	82·20

* Mr. H. A. Sim, District Forest officer, Kurnool.

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point of view also, namely, the local maintenance of cattle in good condition so as to furnish efficient means for the transport of food-grains so necessary during famine periods. It is seldom that the ryot will in this district send his valuable working cattle to the jungles, and the losses fall chiefly on the young and breeding cattle, and to a less degree on the sheep and goats.

The fees at present levied in the Nallamala jungles are eight annas for a buffalo, for cattle four annas, for sheep and goats two annas per head per annum and the amount realised for the whole district during the last official year from these was Rs. 4,887.

CHAPTER II.

POPULATION, HEALTH AND OCCUPATIONS.

Population.—The total population of the district, excluding the Native State of Banganapalle, was 678,551 according to the census of 1881. Including Banganapalle, Kurnool ranks eighth in size and nineteenth in population among the districts in the presidency. Compared with the census of 1871, a decrease of 235,881, or 25·79 per cent., in the population, due altogether to the famine of 1876–1878, was shown in 1881. The loss for each taluk is detailed in the subjoined statement. The heaviest loss occurred in the western section of the district, where it was about 37·4 per cent. In the central section it was nearly 25 per cent., though, as might be expected, much heavier in the two northern taluks of the section than towards the south, nearer to the railway, and where the country is richer. In the two eastern taluks, the loss was only a little over 10 per cent. The comparatively small decrease in Márkápur (9·3 per cent.) is attributed to a large emigration to the adjoining district of Kistna during the famine and to the return of the people after the cessation of it. It may also have been partly due to the large number of wells found in that taluk,—an advantage in which Cumbum shares. It is very evident that the loss of life depended chiefly on the accessibility of the taluks for the supply of grain, and, secondly, on the comparative richness of the country. Thus the parts of Rámallakót, most distant from the railway, are much richer than the greater part of Pattikonda. In Sirvel part of the population was probably assisted by well irrigation :—

Taluks.	Population according to census of 1871.	Population according to census of 1881.	Decrease.	Percentage of decrease.
Pattikonda ..	173,434	105,438	67,996	39·21
Rámallakót ..	146,195	94,698	51,497	35·22
Nandikótkur ..	101,866	72,741	29,125	28·59
Nandyál ..	107,320	78,282	29,038	27·06
Koilkuntla ..	98,844	76,296	22,548	22·81
Sirvel ..	71,066	57,197	13,869	19·52
Cumbum ..	123,042	109,851	13,191	10·72
Márkápur ..	92,665	84,048	8,617	9·30
Total ..	914,432	678,551	235,881	25·80

The next abstract shows the density of population for each taluk as it was in 1871 and as it was according to the census of 1881 :—

Taluks.	Area in square miles.	Population in 1871.		Population in 1881.	
		Total.	Per square mile.	Total.	Per square mile.
Pattikonda ..	1,134	173,434	153	105,438	93
Rámallakót ..	846	146,195	173	94,698	112
Nandikótkur ..	1,322	101,866	77	72,741	55
Nandyál ..	854	107,320	126	78,282	92
Koilkuntla ..	572	98,844	173	76,296	133
Sirvel ..	613	71,066	116	57,197	93
Cumbum ..	1,056	123,042	117	109,851	104
Márkápur ..	1,117	92,665	83	84,048	75
Total ..	7,514	914,432	122	678,551	90

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These figures show that in the whole district there are now only 90 persons per square mile against 122 in 1871. The loss of life caused by the famine in the western taluks amounted to 60 per square mile. At first sight it would appear from these figures that the population of the district is very small, but that this is not so is shown more clearly by the following figures representing the population for every 1,000 acres of land available for cultivation, the district average being 260, or about 166 per square mile. In a purely agricultural country this is the safer test of the pressure of the population on the soil, and it will be noted that this is by far the heaviest in Cumbum, heavy in Koilkuntla and Márkápur, and least in Pattikonda and Nandikótkur. The apparent pressure in the three taluks, Rámallakót, Nandyál and Cumbum, is undoubtedly forced up by the town populations of Kurnool, Nandyál and Cumbum, and especially so in the taluk first named.

Pattikonda	189
Rámallakót	235
Nandikótkur	188
Nandyál	273
Koilkuntla	317
Sirvel	249
Cumbum	470
Márkápur	304

The next statement shows the proportion of the male and female population for each taluk :—

Taluks.	Males.	Females.	Total.
Pattikonda	54,666	50,772	105,438
Rámallakót	48,393	46,305	94,698
Nandikótkur	36,875	35,866	72,741
Nandyál	39,688	38,594	78,282
Koilkuntla	38,196	38,100	76,296
Sirvel	28,754	28,443	57,197
Cumbum	55,054	54,797	109,851
Márkápur	42,245	41,803	84,048
Total ...	343,871	334,680	678,551

The average of the district is 507 males and 493 females in every 1,000, but in Pattikonda and Rámallakót the proportion of females is much less than elsewhere. The disparity is understood to be the result of incorrect enumeration. Kurnool is one of the districts which have at all census enumerations returned a larger number of males than females, but an improvement in the proportions was perceptible in 1881 as compared with 1871. The earlier census showed 511 males to 489 females.

The number of occupied and unoccupied houses in each taluk and the average number of persons for each occupied house are detailed below :—

Taluks.	Houses.			Population.	Number of persons per occupied house.
	Occupied.	Unoccupied.	Total.		
Pattikonda	20,755	3,299	24,054	105,438	5·1
Rámallakót	19,029	4,470	23,499	94,698	5·0
Nandikótkur	14,761	3,230	17,991	72,741	4·9
Nandyál	17,143	2,655	19,798	78,282	4·6
Koilkuntla	17,747	4,826	22,573	76,296	4·3
Sirvel	12,961	2,093	15,054	57,197	4·4
Cumbum	23,703	2,446	26,149	109,851	4·6
Márkápur	16,543	1,603	18,146	84,048	5·1
Total ...	142,642	24,622	167,264	678,551	4·7

Thus 15 per cent. of the houses were unoccupied. This also must, in a great measure, be attributed to the famine.

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The next abstract shows the population of each taluk, arranged according to decennial age periods, with the proportion per mille in each period :—

Age periods.	Pattikonda.		Ramallakot.		Nandikotkur.		Nandyal.	
	Number.	Proportion per mille.	Number.	Proportion per mille.	Number.	Proportion per mille.	Number.	Proportion per mille.
0 to under 10 years ..	21,100	200	17,391	184	12,745	175	14,184	181
10 to ,, 20 ,, ..	26,067	247	23,302	246	18,655	257	19,156	245
20 to ,, 30 ,, ..	22,707	215	20,749	219	16,183	223	16,751	214
30 to ,, 40 ,, ..	17,226	164	15,494	164	11,936	164	12,949	165
40 to ,, 50 ,, ..	9,564	91	8,754	92	6,562	90	7,471	96
50 to ,, 60 ,, ..	5,310	50	5,022	53	3,735	51	4,477	57
60 to ,, 70 ,, ..	2,670	25	2,843	30	2,155	30	2,479	32
70 to ,, 80 ,, ..	592	6	817	9	598	8	628	8
80 years and upwards ..	173	2	300	3	167	2	174	2
Age not stated ..	29	..	26	..	5	..	13	..
Total ..	105,438	1,000	94,698	1,000	72,741	1,000	78,282	1,000

Age periods.	Koilkuntla.		Sirvel.		Cumbum.		Markapur.		Total.	
	Number.	Proportion per mille.	Number.	Proportion per mille.	Number.	Proportion per mille.	Number.	Proportion per mille.	Number.	Proportion per mille.
0 to under 10 years ..	13,321	175	10,474	183	23,191	212	19,339	230	131,745	194
10 to ,, 20 ,, ..	18,579	243	13,488	236	22,907	208	17,047	203	159,201	235
20 to ,, 30 ,, ..	15,314	201	11,417	199	20,730	189	14,939	178	138,790	205
30 to ,, 40 ,, ..	12,481	164	9,359	164	18,245	166	13,301	158	110,991	164
40 to ,, 50 ,, ..	7,917	104	5,792	102	11,242	102	7,968	95	65,270	96
50 to ,, 60 ,, ..	5,049	66	3,660	64	6,923	63	5,069	60	39,245	58
60 to ,, 70 ,, ..	2,730	36	2,250	38	4,829	44	3,973	47	23,929	35
70 to ,, 80 ,, ..	727	9	573	10	1,303	12	1,631	20	6,869	10
80 years and upwards ..	164	2	153	3	476	4	771	9	2,378	3
Age not stated ..	14	..	31	1	5	..	10	..	133	..
Total ..	76,296	1,000	57,197	1,000	109,851	1,000	84,048	1,000	678,551	1,000

Much reliance cannot be placed on the age returns; but, assuming that the proportion of inaccuracy is the same for all taluks, the above figures show a greater proportion of long lives in Cumbum and Márkápur than elsewhere. The proportion of infant life under ten years is also greater in these taluks. The loss of population from famine was least in Cumbum and Márkápur, and the larger proportion of infant life in them is evidence of the comparatively small effect of the famine on the reproductive powers of the surviving adult population of those taluks.

The following statement shows the distribution of the population according to religion for each taluk :—

Taluks.	Hindus.		Muhammadans.		Christians.		Others.		Total.	
	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
Pattikonda	97,094	92·09	8,231	7·81	100	0·09	13	0·01	105,438	100
Rámallakót	77,138	81·45	17,005	17·96	548	0·58	7	0·01	94,698	100
Nandikótkur	62,348	85·71	9,770	13·43	623	0·86	..	..	72,741	100
Nandyál	65,705	83·93	10,935	13·97	1,642	2·10	..	..	78,282	100
Koilkuntla	68,699	90·04	6,420	8·42	1,177	1·54	..	..	76,296	100
Sirvel	49,004	85·68	7,128	12·46	1,065	1·86	..	..	57,197	100
Cumbum	96,756	88·08	11,562	10·52	1,533	1·40	..	..	109,851	100
Márkápur	74,455	88·59	4,824	5·74	4,767	5·67	2	..	84,048	100
Total ..	591,199	87·13	75,875	11·18	11,455	1·69	22	..	678,551	100

The Hindu population thus greatly preponderates, Hindus being nearly eight times as numerous as the Muhammadans, and Christians numbering only 1·69 per cent. of the total. Rámallakót, which includes the town of Kurnool, which was for a long time the seat of a Muhammadan court, has naturally the largest Muhammadan population (17·96 per cent.). Nandyál, Nandikótkur, Sirvel and Cumbum have also

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considerable Muhammadan populations. Márkápur shows the smallest number of this race, but, on the other hand, it has the largest number of Christians, as they amount to 5·67 per cent. of its total population. The Christian element is comparatively strong also in Nandyál, Sirvel, Koilkuntla and Cumbum, but nearly absent in Pattikonda, Rámallakót and Nandikótkur.

The next abstract shows the population for each taluk under the heads educated, uneducated and learning :—

Taluks.	Educated.		Learning.		Uneducated.		Total.	
	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
Pattikonda	3,475	3·3	607	0·6	101,356	96·1	105,438	100
Rámallakót	4,354	4·6	1,318	1·4	89,026	94·0	94,698	100
Nandikótkur	2,860	3·9	767	1·1	69,114	95·0	72,741	100
Nandyál	3,494	4·5	919	1·2	73,869	94·3	78,282	100
Koilkuntla	3,623	4·8	861	1·1	71,812	94·1	76,296	100
Sirvel	2,574	4·5	671	1·2	53,952	94·3	57,197	100
Cumbum	3,238	2·9	1,000	0·9	105,613	96·2	109,851	100
Márkápur	2,272	2·7	562	0·7	81,214	96·6	84,048	100
Total ...	25,890	3·8	6,705	1·0	645,956	95·2	678,551	100

The bulk, 95·2 per cent., of the population is uneducated; but among the taluks, Pattikonda, Cumbum and Márkápur are more backward than the others.

The following abstract shows the Hindu population of each taluk, classified under the several major caste heads adopted in the census tabulation:—

Castes.	Pattikonda.	Rámallakót.	Nandikótkur.	Nandyál.	Koilkuntla.	Sirvel.	Cumbum.	Márkápur.	Total. Number.	Total. Percentage.
1. Brahmins (Priests) ..	2,146	1,949	2,614	2,498	2,311	1,757	2,353	2,307	17,935	3·0
2. Kshatriyas (Warriors)..	432	744	266	278	135	88	642	234	2,819	0·5
3. Shetties (Traders) ..	2,667	2,834	3,026	3,518	3,520	3,207	7,099	3,974	29,845	5·1
4. Agriculturists ..	19,835	16,867	17,426	21,404	27,069	16,287	36,829	28,587	1,83,804	31·1
5. Shepherds	17,753	10,320	5,348	6,149	6,061	5,303	9,595	9,271	69,800	11·8
6. Artizans	1,405	1,179	983	885	951	898	1,530	1,699	9,530	1·6
7. Writers	135	168	119	58	1	25	..	15	521	0·1
8. Weavers	2,296	1,616	1,751	1,375	2,363	1,457	2,086	471	13,415	2·3
9. Laborers and cultivators.	215	131	8	4	121	34	23	43	579	0·1
10. Potters	1,223	1,382	1,144	1,164	1,148	609	1,620	1,324	9,614	1·6
11. Satani (mixed castes) ..	1,652	1,994	1,726	1,985	1,033	966	1,561	939	11,856	2·0
12. Fishermen and hunters	21,009	14,905	6,199	7,591	6,450	4,044	3,338	1,399	64,935	11·0
13. Toddy-drawers ..	1,973	1,670	1,549	1,329	659	574	2,113	421	10,288	1·7
14. Barbers	1,903	1,403	1,124	1,281	1,409	854	1,289	1,022	10,285	1·7
15. Washermen	2,969	2,137	1,536	1,933	2,242	1,548	3,593	2,844	18,802	3·2
16. Others	7,072	5,657	5,823	4,301	3,389	1,884	7,740	8,576	44,442	7·5
17. Pariahs	12,329	12,578	11,700	9,844	9,819	9,444	15,340	11,328	92,382	15·6
18. Caste not stated ..	80	103	6	82	16	25	5	1	318	0·1
19. Caste erroneously noted.	1	..	..	26	2	..	..	..	29	..
Total ..	97,095	77,137	62,348	65,705	68,699	49,004	96,756	74,455	591,199	100

The most numerous caste is that of the hereditary Sudra agriculturists. Next to it is that of Pariahs, but the latter number only half of the former. The shepherds, a section of the Sudra population closely connected with agriculture, form the next most numerous class. Very large numbers are returned under the head "fishermen and hunters," especially in the taluks of Pattikonda and Rámallakót; but the principle on which this classification has been made is nowhere explained, and the reason for the remarkably large numbers returned for the two taluks referred to cannot be ascertained, but is probably due to the presence of large numbers of Boyas in these taluks. Of regular fishermen and fisherwomen, including fish-mongers, there are only 795 in the whole district according to the occupation returns. Potters, smiths, barbers, and washermen together amount to 8·1 per cent. of the population, the washermen numbering the largest of these four castes. The weavers number 2·3 per cent., toddy-drawers 1·7 per cent., traders 5·1 per cent., and Brahmins 3 per cent. The warrior

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or Kshatriya caste is represented by 0·5 per cent. Compared with the averages for the presidency, the proportions under traders, agriculturists, shepherds, and fishermen are high for Kurnool. The larger figures under the last three of these heads are apparently due to the inclusion under them of that portion of the population which in other parts of the presidency has been returned under a separate caste-head—"Vannians" (laborers and cultivators).

Mortality and sickness.—The following statement shows the deaths registered in the district for a series of six years, with the averages for the period :—

Years.	Causes of death.						Population by census of 1881.	Ratio per mille of population.
	Cholera.	Small-pox.	Fever.	Bowel-complaints.	Other diseases.	Total.		
1880-81	..	79	16,376	206	1,698	18,359	678,551	27·1
1881-82	1	34	12,256	185	1,832	14,308		21·1
1882-83	..	698	10,551	232	2,543	14,024		20·7
1883-84	1	1,250	10,338	219	2,947	14,755		21·7
1884-85	77	1,499	10,497	231	2,904	15,208		22·4
1885-86	168	327	10,996	276	3,099	14,866		21·9
Average ..	41	648	11,836	225	2,504	15,253	..	22·5

It will be seen that the deaths registered are only at an average rate of 22·5 per mille per annum, but this is probably too low owing to defective registration. Of these deaths, however, the proportion attributable to different causes is probably pretty fairly represented, and this shows that 4·2 per cent. of the deaths were caused by small-pox, 1·5 per cent. by bowel-complaints, 77·6 per cent. by fever and the rest by other causes, cholera not having caused many deaths during the years referred to. It will be noticed that fever is by far the most common cause of death in the district, and in the following table the average monthly number of deaths registered from this cause for seven years in each registration circle of the district is shown.

Circle.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Ratio per mille per annum.
Kurnool town	34	31	35	30	24	22	29	30	26	28	26	35	350	17·2
Rámallakót	112	103	116	105	108	102	112	105	95	95	99	111	1,263	17·9
Pattikonda	155	141	150	145	164	148	150	154	141	134	127	149	1,758	16·7
Nandikótkur	146	116	128	126	146	117	135	131	126	115	129	157	1,572	21·6
Nandyál	162	132	157	135	139	110	122	128	121	117	137	162	1,622	20·7
Koilkuntla	158	135	127	115	141	108	115	103	103	107	118	143	1,473	19·3
Sirvel	134	113	118	102	113	89	98	103	104	102	111	124	1,311	22·9
Cumbum	179	131	144	140	146	123	135	147	145	139	155	202	1,786	16·3
Márkápur	106	90	84	76	97	94	105	90	96	99	116	153	1,206	14·3
Total ..	1,186	992	1,059	974	1,078	913	1,001	991	957	936	1,018	1,236	12,341	18·2

It will be seen that the number of deaths from this cause is highest in December and January, reaching about 10 per cent. of the total deaths of the year in both of these months. This increased death-rate is most marked in the Cumbum and Márkápur circles, where the proportion is—in Cumbum, during December 11·3 and January 10 per cent., and, in Márkápur, during December 12·7 and January 8·8 per cent., of the total for the year. The dry months, from February to May inclusive, claim a large number, but from June to November the losses are not so severe, although apparently the early rains increase the death-rate from this cause. The talukwar variation of the proportion of deaths due to this cause is also noticeable, for it will be seen that in the two western taluks it is under 17, whilst in the four central taluks it is over 20 but in Cumbum and Márkápur about 15·5 per mille per annum only; the average of the whole district being about 18 per mille, the reputed unhealthiness of Cumbum being more particularly confined to the cusbah and its vicinity. This very high mortality from fever betrays how much the laboring population suffer, and how much labor must be lost from the prevalence of this disease. Fortunately, the busiest part of the agricultural year is the time when fever is not prevalent, and it is when most of the work is over that the people are chiefly struck down by the disease. Fever, however, causes far more loss to the population than is represented by the figures of mortality; for long periods together many people being utterly incapacitated for work,

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whilst the disease does not usually kill a tithe of the persons it attacks. The state of a district where one-fifth of its population is periodically incapable of pursuing its usual avocation for days together is more easily imagined than described.

A statement is given in appendix I showing the average number of cases treated for different diseases at each of the dispensaries in the district. The more important dispensaries are Kurnool (Municipal hospital), Nandyál and Cumbum, and the others are situated at Pattikonda, Atmakúr, Owk, Chaygalmarri and Márkápur. Of all diseases, malarious fever is the most common, accounting as it does for 36·32 per cent. of all cases. The other more common diseases are noted in the margin, but here it suffices to note that they may be divided as follows :—

Rheumatic affections	3·61
Ophthalmia	6·95
Inflammation of external ear	2·75
Respiratory affections	3·85
Worms	5·26
Skin-diseases	5·29
Ulcers	7·17

	Percentage.
Zymotic diseases	36·88
Constitutional diseases	5·95
Local do.	52·32
Other causes, *e.g.*, poisoning, injuries, old age and debility	4·85

At all the dispensaries, except Pattikonda, fever cases are very common, varying from 22 per cent. at Márkápur and 24 and 25 per cent. at Atmakúr and Owk, to 38, 40 and 52 per cent. of the total cases dealt with at Kurnool, Nandyál and Cumbum, respectively. These last three places are well known in the district as being fever dens. At Pattikonda, the number of cases of ophthalmia is remarkable; respiratory affections appear to be most common at Nandyál and Cumbum; dysentery at Cumbum; diarrhœa at both Cumbum and Nandyál; worms at Kurnool and Nandyál; and skin-diseases and ulcers at Pattikonda and Atmakúr. These figures give a general idea of the nature of the diseases from which the people suffer, excepting such epidemics as small-pox and cholera. For every patient admitted to the dispensaries, there are a great number who suffer in villages far from them. The figures show that only a small proportion of the population comes under treatment on European principles.

Occupations.—The following table shows the distribution of the population according to occupations according to the census of 1881 :—

Taluks.	Professional, Class I.		Domestic, Class II.		Commercial, Class III.		Agricultural, Class IV.		Industrial, Class V.	
	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.
Pattikonda	1,474	1·4	726	0·7	1,345	1·3	35,145	33·3	16,022	15·2
Rámallakót	2,000	2·1	805	0·9	2,481	2·6	28,601	30·2	12,763	13·5
Nandikótkur	1,087	1·5	203	0·3	1,125	1·5	29,750	40·9	7,435	10·2
Nandyál	1,377	1·8	343	0·4	1,474	1·9	26,474	33·8	10,354	13·2
Koilkuntla	872	1·1	145	0·2	1,251	1·6	24,540	32·2	13,160	17·3
Sirvel	804	1·4	115	0·2	1,126	2·0	20,777	36·3	5,812	10·2
Cumbum	1,271	1·2	174	0·1	2,722	2·5	31,466	28·6	10,954	10·0
Márkápur	897	1·1	589	0·7	1,943	2·3	21,973	26·1	9,502	11·3
Total	9,782	1·4	3,100	0·5	13,467	2·0	218,726	32·2	86,022	12·7

Taluks.	Indefinite and Non-productive, Class VI.				Total of all classes.				
					Occupied.		Unoccupied.		
	Occupied number.	Unoccupied number.	Total number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Total number.
Pattikonda	9,373	41,353	50,726	48·1	64,085	60·8	41,353	39·2	105,438
Rámallakót	4,466	43,582	48,048	50·7	51,116	54·0	43,582	46·0	94,698
Nandikótkur	2,252	30,889	33,141	45·6	41,852	57·5	30,889	42·5	72,741
Nandyál	3,491	34,769	38,260	48·9	43,513	55·6	34,769	44·4	78 282
Koilkuntla	2,597	33,711	36,308	47·6	42,585	55·8	33,711	44·2	76,296
Sirvel	2,081	26,482	28,563	49·9	30,715	53·7	26,482	46·3	57,197
Cumbum	4,451	58,813	63,264	57·6	51,038	46·5	58,813	53·5	109,851
Márkápur	7,919	41,225	49,144	58·5	42,823	51·0	41,225	49·0	84,048
Total	36,630	310,824	347,454	51·2	367,727	54·2	310,824	45·8	678,551

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In the aggregate 54·2 per cent. of the population were workers, and on these depend the balance, 45·8 per cent., who constitute the non-working population. Pattikonda showed the largest number of workers (60·8 per cent.) and Cumbum the smallest (46·5 per cent.).

The next table shows the proportion of the workers under each occupation head to the total working population of each taluk :—

Taluks.	Professional, Class I.		Domestic, Class II.		Commercial, Class III.		Agricultural, Class IV.		Industrial, Class V.		Indefinite and Non-productive (occupied), Class VI.		Total.
	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.	Percentage.	Number.
Pattikonda ..	1,474	2·3	726	1·1	1,345	2·1	35,145	54·9	16,022	25·0	9,373	14·6	64,085
Rámallakót ..	2,000	3·9	805	1·6	2,481	4·9	28,601	55·9	12,763	25·0	4,466	8·7	51,116
Nandikótkur ..	1,087	2·6	203	0·5	1,125	2·7	29,750	71·1	7,435	17·7	2,252	5·4	41,852
Nandyál ..	1,377	3·2	343	0·8	1,474	3·4	26,474	60·8	10,354	23·8	3,491	8·0	43,513
Koilkuntla ..	872	2·1	145	0·3	1,251	2·9	24,540	57·6	13,180	31·0	2,597	6·1	42,585
Sirvel ..	804	2·6	115	0·4	1,126	3·7	20,777	67·6	5,812	18·9	2,081	6·8	30,715
Cumbum ..	1,271	2·5	174	0·3	2,722	5·3	31,466	61·7	10,954	21·5	4,451	8·7	51,038
Márkápur ..	897	2·1	589	1·4	1,943	4·5	21,973	51·3	9,502	22·2	7,919	18·5	42,823
Total ..	9,782	2·7	3,100	0·8	13,467	3·7	218,726	59·5	86,022	23·4	36,630	9·9	367,727

Nearly 60 per cent. of the working population are agriculturists. The industrial class averages 23 per cent.; the number with indefinite occupations is 10 per cent.; commerce engages nearly 4 per cent.; and the professional and domestic classes account for $3\frac{1}{2}$ per cent.

As might naturally be expected the largest proportions occupied in professional duty or domestic service are to be found in the Rámallakót taluk, in which the head-quarters of the district lie; that taluk is closely followed in the former class by Nandyál and in the latter by Márkápur and Pattikonda. The commercial class is strongest absolutely and relatively in Cumbum and then follow Rámallakót, Márkápur, Sirvel and Nandyál. A large amount of traffic passes through Cumbum in all directions. In this class the largest sub-heads are, merchants, bankers, money-lenders and shopkeepers. Koilkuntla shows the largest proportion of workers engaged in industries and next come Rámallakót, Pattikonda, Nandyál, Márkápur and Cumbum, with Sirvel and Nandikótkur at the bottom of the list. The proportion of workers in the agricultural class follows almost the reverse order, except that Márkápur shows the smallest proportion of its workers engaged in this calling.

The numbers shown under this last class include two orders of occupation :—(1) persons possessing or working the land and engaged in growing grains, fruits, grasses, animals, and other products; and (2) persons engaged about animals, such as grass-cutters, horse-keepers, &c. The numbers under the two orders are respectively 215,098 and 3,628. Of the former, the numbers returned as possessing a proprietary interest in land, as tenants, and as laborers are respectively 105,193, 4,331 and 105,574. According to the revenue accounts for fasli 1291 (1881-82), the number of registered ryots, as far as Government villages are concerned, was 111,803. Probably in the census returns the number of proprietary ryots is understated, as allowance must be made for the 89 Shrotriem villages of the district, which are not included in the revenue accounts, as they are not the property of Government, and it is not unlikely that the figures as regards laborers are larger than they should be. Corrected by the aid of the revenue accounts as far as they go, the proportions of proprietary ryots, tenants and laborers stand as noted below :—

	Number.	Percentage.
Ryots having a proprietary right in land	120,000	55·8
Sub-tenants	5,000	2·3
Laborers	90,098	41·9
Total ...	215,098	100·0

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About one in every six of the population has some proprietary right in the land, or a number of persons about equal to the whole adult male population.

Arts and industries.—The total number of the industrial class was returned as 49,439 males and 36,583 females; of these, 16,375 males and 21,895 females, or together 38,270, making 44·5 per cent. of the entire class, or by far the largest number, were workers in cotton and flax (weavers), but this industry is being gradually displaced by the cheaper machine-made goods imported from England or manufactured in India. Workers in houses and buildings, *i.e.*, carpenters, masons, &c.; workers in dress, *i.e.*, barbers, tailors, shoe-makers, laundry-keepers, &c.; and workers in earthenware, *i.e.*, potters, amounted to 22,438, or 26 per cent.; workers in cane, rush, and straw, *i.e.*, basket, fan, rush-mat and tatty-makers, leaf-stitchers, and dealers in hay and straw to 4,248, or nearly 5 per cent.; and workers in stone and clay, *i.e.*, stone-quarrymen, earth-diggers, brick-makers, gravel and chunam workers, &c., to 3,454, or 4 per cent. The balance left for other industrial occupations is thus only 17,612, or 20 per cent. None of these are important, though some of them are interesting:—They included, 14 needle manufacturers; 102 persons who manufacture and sell dyes and colors; 180 persons who make woollen blankets, carpets, and rugs; and 233 manufacturers of silk-satin, of whom 207 were females, chiefly in Pattikonda and Rámallakót taluks; 5 persons engaged in paper manufacture in the Koilkuntla taluk; 8 in Cumbum who manufacture glass (glass bangles); and in Nandyál, Cumbum, Pattikonda, Sirvel, Márkápur, Koilkuntla and Nandikótkur 79 persons engaged in working in iron.

In the administration report of the district for 1882-83, it was remarked "that there are no manufacturing industries on a large scale in the district. One family in Kurnool town produce very beautiful muslin turbans; one man in Nandyál still occasionally makes a few objects in the lacquer-work peculiar to the locality. Another kind of lacquer-work is made in Nosam in the Koilkuntla taluk. Tent carpets of superior quality are made in Cumbum and Kurnool. Indian steel (wootz) is produced in Rudravaram and the adjoining villages in Sirvel taluk." The Nandyál lacquer is of very high quality, being equal, if not superior, to any other Indian lacquer. The Nossam work is similar in style, but much inferior both in design and execution. The iron workings have almost died out, only a few furnaces being kept up for part of the year; the industry having been almost superseded by imported iron. "Cotton goods and silk cloths of moderately fine texture are made in Gúdúr, Kodumúr, and a few other villages in Rámallakót and Pattikonda taluks;" good cumblies are made in Nandikótkur taluk, and good carts at Kurnool and Atmakúr. But such industries as there are are altogether dependent on local demand for their existence, and they command no market beyond the district. During a famine, therefore, none of them can be expected to guarantee immunity from distress to the workmen concerned.

The subjoined abstract shows the magnitude and value of the manufacturing industries of the district as reported for 1886-87:—

—	Silk.	Cotton.	Wool.	Other fibres.	Paper.	Wood.	Iron.	Brass.	Building	Painting.
Number of looms or small works.	6	9,644	343	8	1	935	647	11	1,710	69
Number of workmen ..	18	24,496	881	18	3	1,645	1,298	22	5,665	203
Annual outturn estimated, lb.	150	1,085,227	88,900	4,450	300	15,599,025	522,480	4,595	..	..
Value of above in rupees.	2,304	465,116	23,723	200	150	158,493	64,024	3,915	264,560	12,990

Compared with the return for 1883-84, these figures show a falling off in the number of workers under silk (41), iron (92) and brass (19), but an increase under cotton (2,816), wool (126), wood (13), building (344) and painting (17); but the fluctuation in the value of the annual outturn is particularly noteworthy in the following instances:—

Decreases—	RS.	Increases—	RS.
Silk	46,576	Wood	72,288
Cotton	57,935	Brass	906
Wool	8,186		
Iron	20,729		
Building	2,67,540		
Painting	470		

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The very large value of wood worked in the year was chiefly due to work in connection with the Bellary-Kistna State Railway.

Commerce and Trade.—There are no statistics of the general trade of the district. Since 1881-82, however, a record has been maintained of the trade exchanged between Kurnool and the adjoining Native State of Hyderabad; an abstract of which is referred to below. The district depends mainly on its own resources, and the only imports are European piece-goods, iron, salt and the various minor dry condiments required for native households. There is little or no export of grain. The chief commodities exported are cotton, indigo, castor-beans, hides, cotton carpets, cotton cloth, principally of native manufacture, and tobacco. The ordinary cost of conveying merchandise by road is given as about three annas a ton per mile.

The trade between the district and Hyderabad is registered at five stations (Kurnool, Satanikota, Bijanivémula, Moravakonda and Siddésvaram) situated at the principal crossings on the right bank of the Tungabhadra. The first station, Kurnool, is in the Rámallakót taluk, and the other four in the Nandikótkur taluk. Kurnool and Moravakonda are the chief routes, the traffic at other crossings not exceeding a few thousands in value. The total value of the traffic may be said to be about 7 lakhs a year and is shown in the marginal table for each of the last six years. In appendix II a statement showing the average under the chief heads is also given. The falling off in the trade for 1883-84 was ascribed to fluctuations in the produce of the district and to a smaller quantity of cotton goods and jaggery having reached the district for transport to Hyderabad. In the latest year of the series, the total for any of the previous years was slightly exceeded. The imports are chiefly rice and other food-grains, oils and oil-seeds, raw cotton, hides and skins, dyeing materials, woollen manufactures, treasure and liquors. The more important exports are cotton goods, salt, jaggery, iron, tobacco, chillies and other spices or condiments, fruits and jewellery. Much of this traffic is simply through traffic. In the case of animals and other minor articles, the exports and imports are nearly balanced.

Year.	Imports.	Exports.	Total.
	RS.	RS.	RS.
1881-82	3,31,120	3,90,730	7,21,850
1882-83	3,95,576	3,15,899	7,11,475
1883-84	2,55,639	2,31,722	4,87,361
1884-85	3,58,963	2,13,322	5,72,285
1885-86	3,50,038	2,47,345	5,97,383
1886-87	4,63,299	3,05,072	7,68,371

The principal centres of trade in the district are Kurnool, Cumbum, and Nandyál, the last two of which are rising in importance, and will far exceed Kurnool when the railway from Bezváda to Guntakál which passes through them is completed. In a report prepared by Mr. H. Lambert, Superintending Engineer of the State Railway Survey, he computed the traffic which passed by Cumbum during 1881-82 at 29,223 tons of merchandise and 81,000 passengers. Parts of the district also depend on Adóni, Gooty, Proddatúr and Cuddapah as centres for the disposal of their produce and to supply their wants.

Weekly markets at which the ryots are able to dispose of their produce and meet their simple requirements are pretty general in the six western taluks. In Pattikonda, as Mr. Banbury in his settlement report remarks, "there is not only a ready local sale for grain in the more important villages of the taluk, but the merchants from Bellary, Adóni and Kurnool likewise come and carry off the surplus produce, chiefly during the harvest time." Regular markets are held in the following places in the different taluks named:—

Pattikonda.	Rámallakót.	Nandikótkur.	Nandyál.	Koilkuntla.	Sirvel.
Pattikonda. Kodumur. Piapalle. Maddikera. Dévanakonda. Gonégandla.	Dhonu. Gúdúr. Joharapuram.	Nandikótkur. Atmakúr.	Nandyál.	Koilkuntla. Owk. Timmanayani-pet. Nosam.	Mahadéva-puram. Rudravaram. Sirvel.

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At these markets the exchange is chiefly of field produce, such as grain, for piece goods, iron, condiments and other small articles required in native households. Cotton and indigo are usually disposed of in the villages to dealers, or carted to trade centres direct. Of all these taluks, Nandyál is the worst supplied with regular markets. In the Cumbum and Márkápur taluks no weekly markets whatever are held, and the people depend on local and travelling dealers to meet their requirements and to dispose of their produce.

Communications.—The Madras Railway, which at Tadpatri is ten, at Gooty six and at Aspari five miles from the district frontier touches the district at the extreme western edge of the Pattikonda taluk, and has in the past been the only means, other than road traffic, for throwing supplies into the district. Its remoteness involved long road journeys, but no doubt it was of infinite value during the last famine, though only the Pattikonda, parts of Rámallakót and Koilkuntla taluks could be at all easily reached from the places named. From Cuddapah and Proddutur also, parts of the Cumbum, Sirvel and Koilkuntla taluks can be reached by road journeys of 20 to 60 miles over fair roads from the railway, but with a heavy crossing in each case over the Pennér. To aid road traffic in the taluks of Sirvel, Koilkuntla, Nandyál and Nandikótkur, the Kurnool canal, which is navigable throughout its length from 17 miles above Kurnool to the Madras Railway near Cuddapah, comes in. This canal is usually open from July to March, but the amount of traffic upon it is very small; and, owing to frequent accidents, communications on it have been often interrupted of late years.

The district, as has already been indicated, is entirely cut in two by the Nallamalas, and across them road traffic is difficult, whilst, with the surplus grain-producing delta of the Kistna beyond to the north-east, the communications have been bad, and the distance is great. The Bellary-Kistna State Railway now under construction, and already opened as far as Nandyál from the west, is to run over the Nallamalas and through Cumbum and thence on to Bezváda at the head of the Kistna delta. It runs through the centre of the district, and will place all parts of it within about 30 miles of a railway. Tapping as it does at its terminus the Kistna, and by canal connection the Godávari delta, it will be always of great benefit to the district in times when the local produce is insufficient for the population. It is also likely to greatly stimulate, if not create, trade, and to add greatly to the importance of Cumbum and Nandyál, relatively to Kurnool in the district.

The main lines of road, although laid out under other conditions, will, on the whole, thoroughly serve as feeders to the new railway, which runs roughly at right angles to the more important of them. Some new lines will need to be opened out, and some of the old lines may perhaps be partially dropped. The roads in the district are classified as those which are always kept up; those partially kept up; and famine roads on which no expenditure is now incurred. A statement showing these roads in detail is given in appendix III. In many cases the length of the roads falling under the last class has been only roughly estimated.

The main lines were originally designed to converge on Kurnool, but it may be more convenient to deal with them as connected with the railways. On the extreme north-west of the district a line, 56 miles in length, connects Kurnool with the Madras Railway at Aspari; it however crosses the Hindri twice. From the same station there is another line running about 30 miles southwards through Pattikonda to Piápalle, which now crosses the Bellary-Kistna State Railway about midway; and an extension of it, which runs on over the Erramalas to Nandyál, is in parts in bad order, and will be superseded by the new railway. From Gooty northwards runs another line through Piápalle, 60 miles to Kurnool, which also is now bisected by the new railway, thus rendering the southern half of minor importance, except as a means of distributing and collecting for the railway. These are practically all the roads which exist in the western section of the district, which needs opening out towards Adóni on its north-western frontier, and in places many of the deserted famine roads across the country also need to be made passable before it can be said that the roads suffice. Especially may be indicated the road from Veldurti to Kalwa, on which a little money is now being spent, unless the latter place is connected with the new railway by a good road to Bétamcherla, which would be preferable.

Turning next to the central section of the district in which Nandyál is the chief centre of trade, a main line runs south through the length of the Sirvel taluk and on

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to Cuddapah, with a cross country connection to Proddutur from Chaygalmarri, and north-west to Kurnool, whilst from the last-named place another line runs almost due east to Atmakúr, with a partially made-road over the Nallamalas towards Dupád by the Mantrála Kanama. Another road, leading from Nandyál over the Nallamalas by the Nandikanama, is an extension eastwards of the Nandyál-Kurnool road, and goes to Cumbum, but will shortly be superseded by the railway. In this section, what is needed is the road nearly due north from Nandyál to Atmakúr, which is being taken in hand, and another in a south-westerly direction through Koilkuntla to Tadpatri. There is a partially made-road southwards from Nandyál through Koilkuntla to Nosam, which is having a little done to it, but needs completion and extension to Jamalamadugu in Cuddapah. The Banganapalle zemindari needs to be connected with the new railway by road, and the same line might well be continued to Owk, which place is connected by a fair road with Tadpatri.

In the eastern section of the district, the road already mentioned from Nandyál to Cumbum is almost the only main line; it will be one of minor importance in the future, except that portion which runs due south from Cumbum, which will need to be extended to the Cuddapah frontier at Allinagaram. A road will also be needed south from Giddalur down the valley of the Sagilér and north *viâ* Rácherla and Turimélla to Cumbum. The valley in which Basinepalle stands also needs to be opened up. In Márkápur there are practically no made-roads, but the Nandyál-Cumbum line should be extended to join the Kurnool, Atmakúr and Dupád road and up to Erragundapalem; whilst from Dupád north to the district frontier and on to Vinukonda, another road is required. All these also need short connections with the new railway, which runs not far from the district frontier.

In many cases, as will be seen by reference to the appendix, the famine roads were laid out on the lines indicated as required, but it is understood that the District Board is unable to take them in hand. They are required to distribute and collect for the railways, and to aid the railways in famine protection. In the following table the mileage of road in each taluk is given. It does not include petty branch roads:—

Taluk.	Roads maintained, mileage.			Annual allowance for upkeep.	Roads deserted, approximate mileage.		
	Made.	Under construction.	Total.		Partially made.	Untouched.	Total.
				Rs.			
Pattikonda ...	98	...	98	51,020	54	19	73
Rámallakót ...	88	6	94		39	35	74
Nandikótkur ...	57	8	65		54	28	82
Nandyál ...	66	9	75		36	13	49
Koilkuntla ...	26	13	39		18	28	46
Sirvel	55	...	55		22	25	47
Cumbum ...	47	...	47		62	20	82
Márkápur ...	...	45	45		19	16	35
Banganapalle ...	* 23	...	* 23	* No information as to maintenance	2	3	5
Total ...	460	81	541		306	187	493

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CHAPTER III.

TAXATION AND LAND REVENUE SETTLEMENT.

Taxation.—A statement, compiled from the books of the Accountant-General, showing the aggregate receipts and charges of the district, distributed under the several budget heads for five years from 1882-83 to 1886-87, is given in appendix IV. The figures are for the official year (April to March). The receipts under all heads varied from Rs. 28,91,254 in 1882-83 to Rs. 42,10,460 in 1884-85, and the charges from Rs. 27,74,753 in 1882-83 to Rs. 42,38,801 in 1886-87; but excluding "remittance accounts" on both sides, the receipts and charges were as noted in the margin during these years: the average receipts being Rs. 27,58,266, and exceeding the charges by Rs. 12,73,259. The following statement shows the amount, and the incidence per head of population, of the taxes raised, under the chief heads of account, for two years of the period, according to the Accountant-General's books; the population of the district, excluding the Native State of Banganapalle, being 678,551 according to the last census:—

Years.	Receipts.	Charges.	Balance.
	RS.	RS.	RS.
1882-83	25,51,899	14,47,046	11,04,853
1883-84	26,75,605	15,05,409	11,70,196
1884-85	28,00,143	15,19,297	12,80,846
1885-86	28,77,027	14,55,400	14,21,627
1886-87	28,86,659	14,97,885	13,88,774

Items.	1883-84.		1886-87.	
	Amount of revenue.	Incidence per head of population.	Amount of revenue.	Incidence per head of population.
	RS.	RS. A. P.	RS.	RS. A. P.
Land-revenue	13,66,097	2 0 3	13,55,551	2 0 0
Excise on spirits and drugs	1,72,705	0 4 1	4,10,162	0 9 8
Stamps	82,642	0 1 11	99,334	0 2 4
Assessed taxes	20,045	0 0 6	29,969	0 0 8
Local and Special Funds	4,93,592	0 11 8	5,09,737	0 12 0
Total ..	21,35,081	3 2 4	24,04,753	3 8 8

The rate of taxation has shown an increase in the short period referred to, except under the head of Land-revenue; the chief increase—and it is a very marked one—being under Excise.

The Land-revenue was considerably above 14 lakhs of rupees in the years from fasli 1271 (1861-62) to fasli 1285 (1875-76); in seven of these years it having been above 15 lakhs. The famine of 1865-66 had hardly any effect on the revenue, as will be seen from the figures given in the margin. Subsequent to fasli 1285 (1875-76), that is, since the time of the recent famine of 1876–1878, however, there has been a large falling off. On the average of the five years from fasli 1289 (1879-80) to fasli 1293 (1883-84), the demand and collections showed decreases of 14 per cent. and 11 per cent., respectively, as compared with the figures for fasli 1285 (1875-76); but this decrease is disappearing as is shown by the following comparative statement of the demand and collections of each taluk in fasli 1296 (1886-87) and fasli 1285 (1875-76).

Land-revenue collections.	Years.	Final land-revenue demand.
RS.		RS.
15,03,074	1863-64	15,31,243
15,24,315	1864-65	15,04,196
14,36,716	1865-66	14,34,246
15,02,285	1866-67	15,00,279
14,73,216	1867-68	14,75,211

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Taluks.	Current demand of Land-revenue.						Collections of Land-revenue (current and arrears).					
	In 1875-76.		In 1886-87.		Increase or decrease on 1875-76.		In 1875-76.		In 1886-87.		Increase or decrease on 1875-76.	
	Amount.	Per cent. of district demand.	Amount.	Per cent. of district demand.	Amount.	Per cent.	Amount.	Per cent. of district collections.	Amount.	Per cent. of district collections.	Amount.	Per cent.
	Rs.		Rs.		Rs.		Rs.		Rs.		Rs.	
Pattikonda..	2,29,077	15·4	1,99,871	14·2	— 29,206	— 12·7	2,28,537	15·2	2,00,370	14·2	— 28,167	—12·3
Rámallakót.	1,84,789	12·4	1,63,683	11·6	— 21,106	— 11·4	1,85,828	12·4	1,63,900	11·6	— 21,928	—11·8
Nandikótkur.	2,15,041	14·4	2,03,952	14·5	— 11,089	— 5·2	2,13,947	14·2	2,03,888	14·5	— 10,059	— 4·7
Nandyál ..	2,04,971	13·8	1,93,487	13·8	— 11,484	— 5·6	2,05,313	13·7	1,93,456	13·8	— 11,857	— 5·8
Koilkuntla..	2,34,629	15·7	2,47,152	17·6	+ 12,523	+ 5·3	2,42,265	16·1	2,49,019	17·7	+ 6,754	+ 2·8
Sirvel ..	1,65,085	11·1	1,64,614	11·7	— 471	— ·3	1,68,997	11·3	1,64,893	11·7	— 4,104	— 2·4
Cumbum ..	1,61,448	10·8	1,42,651	10·1	— 18,797	— 11·6	1,61,786	10·8	1,40,852	10·0	— 20,934	—12·9
Márkápur.	94,730	6·4	91,050	6·5	— 3,680	— 3·9	94,253	6·3	91,050	6·5	— 3,203	— 3·4
Total ..	14,89,770	100	14,06,460	100	— 83,310	— 5·6	15,00,926	100	14,07,428	100	— 93,498	— 6·2

The decrease for the whole district on these two years is 5·6 per cent. in the demand and 6·2 per cent. in the collections. The largest decrease is in the Pattikonda taluk (12·7 per cent.) and next in Cumbum and Rámallakót; whilst in Nandyál, Nandikótkur and Márkápur the decrease of the demand was much less, and in Sirvel scarcely noticeable. The only taluk which shows an increase in the demand is Koilkuntla. Previous to the famine, Pattikonda stood next to Koilkuntla in point of revenue, and it has now in a great measure recovered its position, being exceeded by the Nandikótkur taluk which now stands second by only a small amount.

The abstract below shows the incidence of land-revenue per head of population in each taluk on the collections for fasli 1293 and for the latest year :—

Taluks.	Population in 1881.	Land-revenue collections.		Incidence per head of population.	
		Fasli 1293.	Fasli 1296.	Fasli 1293.	Fasli 1296.
	No.	Rs.	Rs.	Rs. A. P.	Rs. A. P.
Pattikonda	165,438	1,78,889	2,00,370	1 11 2	1 14 5
Rámallakót	94,698	1,55,281	1,63,900	1 10 2	1 11 8
Nandikótkur	72,741	1,94,958	2,03,888	2 10 11	2 12 10
Nandyál	78,282	1,90,437	1,93,456	2 6 11	2 7 6
Koilkuntla	76,296	2,39,990	2,49,019	3 2 4	3 4 3
Sirvel	57,197	1,50,722	1,64,893	2 10 2	2 14 2
Cumbum	109,851	1,54,046	1,40,852	1 6 5	1 4 6
Márkápur	84,048	85,601	91,050	1 0 4	1 1 4
Total ..	678,551	13,49,924	14,07,428	1 15 10	2 1 2

The incidence is heaviest in the four taluks forming the central section of the district. It is lowest in the two eastern taluks of Cumbum and Márkápur. The increase in the rate of incidence is common to all taluks except Cumbum, where the collections in the former year exceeded the current demand. There is a general correspondence between the variations in the average rates of assessment per acre in each taluk and in the incidence per head of population, except that in Cumbum, with a higher average rate of assessment than most of the taluks to the west of the Nallamalas, the incidence per head of population is extremely low.

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The extent to which coercive processes were resorted to for the collection of the revenue in the several years will appear from the following statement:—

Faslis with corresponding official years.	Demand, arrears and current.	Arrears for which: Coercive processes were issued. Amount.*	Arrears for which: Coercive processes were issued. Per cent. of demand.	Arrears for which: Property was sold. Amount.*	Arrears for which: Property was sold. Per cent. of demand.	Sales for arrears realised. Amount.*	Sales for arrears realised. Per cent. of demand.	Remark.
	Rs.	Rs.		Rs.		Rs.		
Fasli 1269 (1859-60) ..	14,63,567	162	0·01	Information not available.	Information not available.	68	0·005	* These figures include also transactions on account of items other than land-revenue. Such transactions, however, form ordinarily a small fraction of the figures, and the means do not exist to distinguish them separately.
,, 1270 (1860-61) ..	14,23,680	213	0·01			213	0·01	
,, 1271 (1861-62) ..	15,57,739	726	0·05			652	0·04	
,, 1272 (1862-63) ..	15,36,554	516	0·03			383	0·02	
,, 1273 (1863-64) ..	15,52,916	1,399	0·09			732	0·05	
,, 1274 (1864-65) ..	15,51,517	2,228	0·14			509	0·03	
,, 1275 (1865-66) ..	14,58,235	1,234	0·08			445	0·03	
,, 1276 (1866-67) ..	15,21,800	1,413	0·09			928	0·06	
,, 1277 (1867-68) ..	14,93,239	2,979	0·20			325	0·02	
,, 1278 (1868-69) ..	14,87,858	5,459	0·37			2,131	0·14	
,, 1279 (1869-70) ..	14,79,231	9,105	0·62			4,504	0·30	
,, 1280 (1870-71) ..	15,10,703	9,902	0·66			3,699	0·24	
,, 1281 (1871-72) ..	14,75,224	35,160	2·38			6,080	0·41	
,, 1282 (1872-73) ..	14,86,560	62,428	4·20			6,872	0·46	
,, 1283 (1873-74) ..	15,16,931	47,474	3·13			6,899	0·45	
,, 1284 (1874-75) ..	15,47,950	89,111	5·76			7,096	0·46	
,, 1285 (1875-76) ..	15,35,354	1,20,132	7·82	17,792	1·16	13,454	0·88	
,, 1286 (1876-77) ..	9,39,296	1,08,481	11·55	6,395	0·68	6,574	0·70	
,, 1287 (1877-78) ..	20,12,115	4,52,800	22·50	12,911	0·64	4,760	0·24	
,, 1288 (1878-79) ..	21,40,463	7,69,508	35·95	51,532	2·41	21,677	1·01	
,, 1289 (1879-80) ..	17,64,243	11,21,865	63·59	2,89,386	16·40	97,733	5·54	
,, 1290 (1880-81) ..	15,75,508	7,34,586	46·63	1,87,521	11·90	97,032	6·16	
,, 1291 (1881-82) ..	14,94,538	Information not available	Information not available	Information not available.	Information not available.	43,468	2·91	
,, 1292 (1882-83) ..	14,49,986					26,263	1·81	
,, 1293 (1883-84) ..	13,82,013					9,847	0·71	
,, 1294 (1884-85) ..	12,75,783	3,60,206	28·23	14,134	1·10	10,029	0·79	
,, 1295 (1885-86) ..	13,87,668	3,05,541	22·02	6,902	0·50	3,296	0·24	
,, 1296 (1886-87) ..	14,22,865	3,22,680	22·68	2,528	0·18	3,040	0·21	

The figures show at a glance that coercion was applied to an enormous extent, in the years immediately following the last famine, faslis 1289 (1879-80) and 1290 (1880-81) ranking pre-eminent in this respect.

The subjoined abstract shows the variations in the amount of pressure applied to each taluk on the figures for two years, faslis 1290 (1880-81) and 1296 (1886-87):—

Taluks.	Fasli 1290. Demand, arrears and current.	Fasli 1290. Arrears for which coercive processes were issued. Total.	Fasli 1290. Arrears for which coercive processes were issued. Per cent. on demand.	Fasli 1296. Demand, arrears and current.	Fasli 1296. Arrears for which coercive processes were issued. Total.	Fasli 1296. Arrears for which coercive processes were issued. Per cent. on demand.
	Rs.	Rs.		Rs.	Rs.	
Pattikonda	2,53,483	1,13,386	44·73	2,02,447	33,097	16·35
Rámallakót	1,96,269	54,474	27·75	1,64,410	23,898	14·54
Nandikótkur	2,28,974	1,57,858	68·94	2,04,097	11,854	5·81
Nandyál	2,16,000	73,665	34·10	2,00,482	87,212	43·50
Koilkuntla	2,42,185	96,898	40·01	2,51,807	1,05,611	41·94
Sirvel	1,79,400	78,799	43·92	1,65,572	30,931	18·68
Cumbum	1,69,206	1,21,732	71·94	1,42,928	23,077	16·15
Márkápur	89,991	37,774	41·98	91,122	7,000	7·68
Total ..	15,75,508	7,34,586	46·62	14,22,865	3,22,680	22·68

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Taluks.	Fasli 1290. Arrears for which property was sold.		Fasli 1296. Arrears for which property was sold.		Fasli 1290. Amount realised by sales.		Fasli 1296. Amount realised by sales.	
	Total.	Per cent. on demand.	Total.	Per cent. on demand.	Total.	Per cent. on demand.	Total.	Per cent. on demand.
	Rs.		Rs.		Rs.		Rs.	
Pattikonda	37,715	14·88	718	·35	10,758	4·24	608	·30
Rámallakót	16,815	8·57	276	·17	10,166	5·18	194	·12
Nandikótkur	59,695	26·07	35	·02	36,453	15·92	30	·01
Nandyál	10,487	4·85	104	·05	3,510	1·63	93	·05
Koilkuntla	6,117	2·53	676	·27	2,968	1·23	1,172	·47
Sirvel	20,526	11·44	246	·15	9,497	5·29	403	·24
Cumbum	32,995	19·50	468	·33	21,089	12·46	539	·38
Márkápur	3,171	3·52	5	·01	2,591	2·88	1	..
Total ..	1,87,521	11·90	2,528	·18	97,032	6·16	3,040	·21

The improvement shown in the more recent year probably shows improved administration and recovery from the effects of the famine.

Excise on Spirits and Drugs.—From fasli 1276 (1866-67) to fasli 1284 (1874-75) the annual revenue under this head exceeded three lakhs of rupees. After the last famine, however, there was a large falling off, and the collections during the years 1881-82 to 1883-84 fell below 1¾ lakhs. Since then there has been a great recovery, and the revenue is now above four lakhs from this source. The following statement shows the consumption of arrack and intoxicating drugs, and the incidence of the revenue per head of population, so far as they can be made out from the figures for 1886-87 :—

Taluk.	Population.	Consumption per head of population.		Revenue.		Incidence per head of population of	
		Arrack.	Opium and intoxicating drugs.	Arrack and toddy rents.	Opium and intoxicating drugs.	Arrack and toddy rents.	Revenue from opium and intoxicating drugs.
	Nos.	Gallons.	Tolahs.	Rs.	Rs.	Rs. A. P.	Rs. A. P.
Pattikonda	105,438	0·151	0·019				
Rámallakót	94,698	0·131	0·073				
Nandikótkur	72,741	0·076	0·015				
Nandyál	78,282	0·190	0·077	4,00,284	9,265	0 9 5	0 0 3
Koilkuntla	76,296	0·076	0·055				
Sirvel	57,197	0·076	0·044				
Cumbum	109,851	0·108	0·025				
Márkápur	84,048	0·037	0·009				
Total and average of the district ..	678,551	0·109	3·039	4,00,284	9,265	0 9 5	0 0 3

The incidence of excise revenue under both heads has increased of late years, but cannot now be worked out for each taluk. In 1883-84, however, it was highest in the Rámallakót, which includes Kurnool the head-quarters of the district, Nandikótkur and Pattikonda Taluks, but much lower in all the other taluks and lowest in Cumbum and Márkápur, in the latter taluk dwindling to seven pies per head. In the rich taluk of Koilkuntla it was very much lower than in Nandyál, Nandikótkur or Pattikonda. The consumption of arrack is now largest in Nandyál and next in Pattikonda, probably owing to the railway works going on there, but less in Rámallakót. It has also increased in Cumbum, but has decreased in all the other taluks.

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Assessed taxes.—The following figures, extracted from the annual reports of the Board, show the numbers taxed and the incidence of the collections on account of the tax, excluding fines and penalties, per head of the total population, per head of the trading community, and per head of the tax-payers for the five years from 1882-83 to 1886-87 :—

Years.	Number of persons taxed.	Average population for each tax-payer.		Incidence of the collections per head of population.		
		Total.	Traders.	Total.	Trading.	Tax-paying.
				Rs. A. P.	Rs. A. P.	Rs. A. P.
1882-83	1,685	402	63	0 0 7	0 3 8	14 7 4
1883-84	1,411	481	75	0 0 5½	0 2 11¾	13 15 4
1884-85	1,255	541	84	0 0 4¾	0 2 6¾	13 9 8
1885-86	1,232	551	86	0 0 4¾	0 2 7½	14 1 3¾
1886-87	1,458	465	72	0 0 6¾	0 3 7	16 5 1¾

The falling off in 1883-84, as compared with the previous year, was ascribed to reductions and exemptions made with a view to rectify anomalies in previous assessments. In 1886, the income-tax was introduced in the place of the license-tax previously in force, and led to a slight increase in the number of persons taxed, viz., from 1,232 to 1,458. The classification of these is shown in the table given in the margin. From this it will be seen that there were no persons coming under Part IV—Other sources of income,—whose incomes were assessed at higher than Rs. 20,000 ; and that, in the whole district, there were only 66 persons whose incomes were higher than Rs. 2,500 per annum.

Class.	Annual income.	Tax or fee prescribed for each class.	Persons assessed.	
			In each class.	Per cent. of total number.
		Rs.	No.	
I	From Rs. 500 to 750	10	967	66·32
II	,, ,, 750 to 1,000	15	190	13·03
III	,, ,, 1,000 to 1,250	20	75	5·14
IV	,, ,, 1,250 to 1,500	28	101	6·93
V	,, ,, 1,500 to 1,750	35	30	2·06
VI	,, ,, 1,750 to 2,000	42	14	·96
VII	,, ,, 2,000 to 2,500	5 pies in the rupee.	15	1·03
VIII	,, ,, 2,500 to 5,000	Do.	48	3·29
IX	,, ,, 5,000 to 10,000	Do.	10	·69
X	,, ,, 10,000 to 20,000	Do.	8	·55
	Total ..	..	1,458	100·

In the following table, the collections for fasli 1290 (1880-81) and for the latest year are given with the incidence per head of the population in each taluk. The collections include fines, &c. :—

Taluk.	Population.	Collections.		Incidence per head of population.	
		1880-81.	1886-87.	1880-81.	1886-87.
	No.	Rs.	Rs.	pies.	pies.
Pattikonda	105,438	2,198	2,981	4	5
Rámallakót	94,698	3,342	5,445	7	11
Nandikótkur	72,741	930	2,486	2	7
Nandyál	78,282	3,405	3,536	8	9
Koilkuntla	76,296	2,482	2,230	6	6
Sirvel	57,197	2,947	2,460	10	8
Cumbum	109,851	4,480	3,136	8	5
Márkápur	84,048	2,630	1,523	6	3
Total ..	678,551	22,414	23,797	6	7

In the earlier year the rates in Nandikótkur and Pattikonda were extremely low, but in Sirvel, which is much less important, from a commercial point of view, than Rámallakót, the highest rate for the district was paid. These variations were apparently due to irregular and unequal assessments; for in the later year the rates were highest in Rámallakót and Nandyál, though why the rate in Cumbum had decreased so much is not evident.

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Stamp Revenue—Has amounted to Rs. 97,876 and Rs. 98,454, respectively, during the last two years. In 1886-87 Rs. 48,990 or 49·7 per cent. were the collections under court fee stamps and the balance from non-judicial stamps. The incidence per head of population under each head is shown in the margin, and shows signs of a large increase in recent years.

	AS.
Court fee stamps	1·15
Non-judicial stamps	1·17
Total, Stamp Revenue ...	2·32

Salt Revenue.—There is practically none directly levied in the district, as no salt factories exist. No reliable information can be obtained as to the salt consumed in the district; but in the Ceded districts and Kurnool together, the consumption works out to only 12·33 lb. per head of population, which is a distinctly low rate of consumption. The charges on account of salt revenue in the district have averaged during the last four years Rs. 8,888 per annum.

Forest Revenue—Amounts to a considerable figure in this district, and has averaged Rs. 81,760 per annum during the last four years; whilst the charges were Rs. 35,260 for the same period, so that the net income from this source has been Rs. 46,500 per annum, and this amount may probably be expected to increase largely in the future.

Settlement Revision.—The following extract * describes the revisions of the land-revenue settlements in Kurnool:—

"Kurnool proper, consisting of the present taluks of Rámallakót, Nandikótkur, Nandyál, and Sirvel, became an immediate British possession upon the deposition of the Nabob in 1839. The revenue system then found to be in force was that of renting the villages to the headmen, who distributed the lands and fixed the rates at their pleasure. The consequence was great inequality of assessment, 'and although there was very little liberty in those days for the ryot to contract his holding the authorities were obliged to allow the relinquishment of much land, and from fasli 1249 (1839-40) to 1253 (1843-44) there was a steady decrease of the revenue.' The demand was excessive as well as unequal. A rough field survey was made between 1841 and 1843, but the Board refused to undertake any general revision of assessment, pending the general survey, which did not begin till nearly twenty years later. Meanwhile, relief was given both by temporary remissions and by annual alteration of the rates of assessment, in the direction both of enhancement and reduction, but with a balance always in favor of the latter. In common with the rest of the Presidency, Kurnool shared the benefit of the Court of Directors' orders of 1851, abolishing the high tax on special products. Prices rose largely from 1843 and brought back prosperity.

"The rest of the district was settled on the ryotwari system from 1801 to 1807. Competitive leases were afterwards tried as a substitute in some places, but by 1821-22 the whole tract had again come under the ryotwari settlement, upon the general basis of Sir Thomas Munro's scheme, *i.e.*, a reduction as compared with the rates prevailing before 1807 of 25 per cent. on dry and wet, and 33 per cent. on garden lands. Some further reductions were made in 1858 and in 1865 and 1869, the latter relating to well-lands which were brought down to the highest dry rate of the village, while the reductions of 1858 affected wet and dry lands generally in two taluks.

"Irrigation throughout the district generally is from tanks, *doravu* wells or water-holes, and small streams. There is no extensive river system. The Madras irrigation canal opened in 1871-72, and recently purchased by Government, is an important protective work, and the bulk of the irrigation under it is in Kurnool; but the highest area irrigated under it in the district in any year up to date has been only 75,105 acres, and this was in 1876-77 when the Government undertook to pay the water-rate to the company if the crop failed. In 1877-78, when no such guarantee was given, the irrigated area declined to 35,099 acres. The canal irrigated area was not classed as wet, because the water-rate was paid to the company and only the dry-crop assessment to the Government. This distinction is still continued as regards the canal-irrigated lands. Lands otherwise irrigated in Kurnool proper were originally assessed at dry rates *plus* a separate water-cess; but the water-cess is now no longer separately shown, and the total revenue demand from all the wet lands of the district appears under a single heading.

"Survey began in 1859 and settlement in 1861, but the new assessments were not introduced till 1864-65 in Kurnool proper; 1872-73 in Pattikonda; 1874-75 in Koilkuntla; and 1877-78 in Cumbum and Márkápur. The introduction of the settlement rates in Kurnool proper extended over five years from 1864-65 (fasli 1274) to 1868-69 (fasli 1278).

* From Mr. Stack's "Memorandum on Current Land Revenue Settlements."

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The results may be summarised. The soil percentages are as follow :—

Description of land.	Percentage of each class.			
	Kurnool proper.	Pattikonda.	Koilkuntla.	Cumbum and Márkápur.
Permanently improved	·39	..	·86	·63
Black soils .. Clay	51·21	23	76·96	Not given.
Black soils .. Loam	30·52	9	15·2	Not given.
Black soils .. Sand	7·10	2	5·17	Not given.
Total, Black ..	88·83	34	97·15	16·63
Red soils .. Clay	·15	1	..	Not given.
Red soils .. Loam	6·53	31	·71	Not given.
Red soils .. Sand	4·10	34	1·28	Not given.
Total, Red ..	10·78	66	1·99	82·74
	100	100	100	100

In Cumbum and Márkápur most of the red soil is loam.

In Kurnool proper *jonna* and *aruga* were taken as the standard crops for dry and paddy for wet lands, but paddy was subsequently rejected and the principle of dry assessment *plus* water-cess was adopted as mentioned above. Experiments in dry grains appear to have numbered only 132. In Pattikonda jonna and paddy were taken for dry and wet lands. Experiments were 229 in number for jonna and 57 for paddy. In Koilkuntla, the irrigation percentage was only 2·22. Grain-values, revenue rates, and all other assessment data were the same as those for the Cuddapah Taluk of the Cuddapah District, to which district Koilkuntla belonged at the time. In Cumbum and Márkápur, the irrigation percentage was 7½. Jonna was taken as the dry crop on black soil, and half jonna, half korra on red soil ; for wet lands, paddy was the standard crop. Experiments in these three crops were 950 in number. The grain values adopted came out as follows in Madras measures (100 cubic inches) per acre :—

Description of land.	Kurnool proper.		Pattikonda.		Koilkuntla.			Cumbum and Markapur.		
	Jonna.	Arika.	Jonna.	Paddy.	Jonna.	Korra.	Paddy.	Jonna.	Korra.	Paddy.
Permanently improved ..	440-480	..	400-480	1,200	380-500	..	1,300-1,450	240-440	..	900-1,300
Black soil. Clay ..	120-360	..	120-360	400-1,000	100-400	..	360-1,200	100-360	..	350-1,050
Black soil. Loam ..	120-280	..	120-280	600-1,100	100-300	..	600-1,300	100-300	..	600-1,200
Black soil. Sand ..	80-200	..	80-180	400-800	80-220	..	360-900	80-240	..	300-750
Red soil. Clay ..	..	240-320	150-220	600-800	180-260	200-280	600-1,000	120-260	120-280	350-900
Red soil. Loam ..	..	160-240	100-170	450-640	120-220	140-240	550-900	80-240	80-250	350-900
Red soil. Sand ..	..	80-160	60-100	300-450	80-140	100-160	360.600	80-200	80-220	300-750

These grain values were subjected to the usual deduction of 25 per cent. for vicissitudes of season and unprofitable areas.

The commutation prices adopted were as follow in rupees per garce of 3,200 Madras measures :—

Grain.	Kurnool proper.	Pattikonda.	Koilkuntla.	Cumbum and Márkápur.
Jonna	105	125	139	125
Arika	60	...	...	...
Korra	...	...	100	90
Paddy	...	120	126	120

In Kurnool proper, the prices were calculated on the averages of the previous 24 years. In Pattikonda, Cumbum and Márkápur they were based on the price lists for the entire district during the 20 years ending fasli 1274 (1864-65) after making a deduction of 13½ per cent. for jonna and 10 per cent. for paddy on account of merchants' profits, &c.

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Cultivating expenses were estimated as follow :—

Description of land.	Kurnool proper.		Pattikonda.		
	Dry.		Dry.		Wet.
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.
1	2	3	4	5	6
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Permanently improved	5 3 1	4 14 1	6 11 4	6 5 4	17 4 1
Black soil .. Clay	4 2 4	1 15 6	4 9 10	2 8 0	15 4 4
Black soil .. Loam	3 15 11	1 15 9	4 6 3	2 8 0	16 4 1
Black soil .. Sand	3 0 9	1 8 2	1 12 0	1 12 0	10 0 0
Red soil .. Clay	2 7 10	1 14 1	3 13 0	2 12 3	10 0 0
Red soil .. Loam	1 14 1	1 6 1	2 12 3	1 12 0	7 13 0
Red soil .. Sand	1 6 1	0 12 0	1 12 0	1 1 0	5 9 6

Description of land.	Pattikonda —*cont.*	Koilkuntla.			
	Wet—*cont.*	Dry.		Wet.	
	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	7	8	9	10	11
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Permanently improved	..	6 2 9	6 1 9	19 0 0	18 6 3
Black soil .. Clay	5 4 0	4 15 9	2 4 2	17 5 0	5 13 0
Black soil .. Loam	7 3 0	3 15 11	2 4 2	18 4 0	7 11 6
Black soil .. Sand	5 4 0	3 11 1	2 0 4	12 8 0	5 13 0
Red soil .. Clay	7 13 0	4 1 7	3 1 8	13 8 0	7 11 6
Red soil .. Loam	5 9 6	3 6 2	2 5 11	12 8 0	7 3 10
Red soil .. Sand	3 10 0	2 7 5	1 14 3	7 12 0	5 13 0

In Cumbum and Márkápur the rates did not differ much from those adopted in Pattikonda.

The resulting revenue rates are shown below :—

Description of land.	Kurnool proper.		Pattikonda.			
	Dry.		Dry.		Wet.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
1	2	3	4	5	6	7
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Permanently improved ..	3 8 0	3 0 0	3 8 0	2 8 0	8 0 0	..
Black soil. Clay ..	2 8 0	0 8 0	3 0 0	0 8 0	6 8 0	3 0 0
Black soil. Loam ..	1 8 0	0 8 0	1 12 0	0 8 0	7 0 0	5 0 0
Black soil. Sand ..	1 0 0	0 4 0	1 0 0	0 4 0	6 0 0	3 0 0
Red soil .. Clay ..	1 0 0	0 12 0	1 4 0	0 12 0	6 0 0	4 8 0
Red soil .. Loam ..	0 12 0	0 8 0	1 0 0	0 8 0	5 0 0	3 8 0
Red soil .. Sand ..	0 8 0	0 4 0	0 8 0	0 4 0	3 8 0	2 8 0

Description of land.	Koilkuntla.				Cumbum and Markapur.			
	Dry.		Wet.		Dry.		Wet.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
	8	9	10	11	12	13	14	15
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Permanently improved ..	5 0 0	3 0 0	12 0 0	10 0 0	3 8 0	1 8 0	..	..
Black soil. Clay ..	4 0 0	0 8 0	9 0 0	2 8 0	3 0 0	0 8 0	7 8 0	2 8 0
Black soil. Loam ..	3 0 0	0 8 0	10 0 0	5 0 0	2 4 0	0 8 0	9 8 0	4 8 0
Black soil. Sand ..	1 12 0	0 4 0	7 0 0	2 8 0	1 8 0	0 6 0	5 8 0	2 8 0
Red soil .. Clay ..	1 12 0	1 0 0	8 0 0	5 0 0	1 8 0	0 8 0	6 8 0	2 8 0
Red soil .. Loam ..	1 8 0	0 8 0	7 0 0	4 8 0	1 4 0	0 6 0	6 8 0	2 8 0
Red soil .. Sand ..	0 12 0	0 4 0	5 0 0	2 8 0	1 0 0	0 4 0	5 8 0	2 8 0

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The cost of the survey and settlement of the whole district was—for the survey Rs. 8,15,501, and for the settlement Rs. 5,35,253, or a total of about 13½ lakhs of rupees. The immediate results were an increase in the area of about 9 per cent., with an attendant increase of about 3 per cent. on the old assessment. The net increase of assessment was Rs. 40,377, or about two and a quarter per cent. on the cost of the operations. These results are shown in detail for Kurnool proper and the other taluks separately in the following table:—

Taluks.	As per revenue accounts.		As per new survey and settlement.		Difference.			
	Extent.	Assessment.	Extent.	Assessment.	Extent.		Assessment.	
	Acs.	Rs.	Acs.	Rs.	Acs.	P. cent.	Rs.	P. cent.
Kurnool proper, four taluks ..	596,123	7,19,430	663,878	7,27,003	+ 67,755	11	+ 7,573	1
Pattikonda	245,915	1,82,787	263,815	2,08,223	+ 17,900	7	+ 25,436	14
Koilkuntla	134,073	1,96,549	137,600	2,18,431	+ 3,527	3	+ 21,882	11
Cumbum	74,338	1,19,587	82,111	1,02,315	+ 7,773	10	— 17,272	— 14
Márkápur	71,104	68,770	79,009	71,528	+ 7,905	11	+ 2,758	4
Grand Total ..	1,121,553	12,87,123	1,226,413	13,27,500	+ 104,860	9	+ 40,377	3

The average wet and dry rates per acre for each taluk on the holdings for fasli 1296 (1886-87) are given in the margin. For the entire district the averages were Rs. 6–6–9 for wet and Rs. 0–15–4 for dry. The highest averages for dry and wet occur in Koilkuntla and the lowest for dry in Márkápur and for wet in Rámallakót.

Taluks.	Average assessment per acre.		
	Dry.	Wet.	Dry and Wet.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Pattikonda	0 11 2	5 10 11	0 12 5
Rámallakót	0 12 10	5 3 6	0 13 6
Nandikótkur ..	1 1 9	5 7 5	1 2 10
Nandyál	1 2 7	5 14 8	1 4 3
Koilkuntla	1 7 6	8 5 9	1 9 7
Sirvel	1 3 7	5 11 1	1 4 8
Cumbum	0 12 8	7 14 4	1 6 0
Márkápur	0 8 7	5 7 0	0 12 8
Average of the district ..	0 15 4	6 6 9	1 1 5

The fluctuations in the extent of holdings during recent years are dealt with in a subsequent chapter.

In Cumbum and Márkápur the settlement rates were introduced during the famine period, and there has been a marked and steady increase in the holdings in recent years. In the other taluks the new rates had been introduced for some years previous to the famine, and the figures for the intermediate period showed that the settlement was not repressive of agricultural enterprise. With the advent of the famine, however, the extent of holdings and the assessment declined in every taluk, the full effect of that disaster, however, not being shown till either fasli 1290 or 1291, the fact being that until then a great deal of land remained entered on the records as occupied for which no claimants existed. Since the last-named year, however, there has been a marked increase in the areas occupied, though they are still considerably below those for the years before the famine. It does not appear therefore that the rates of assessment imposed act as a deterrent to the extension of cultivation, but a glance at the following figures shows that the commutation rates adopted were perilously high, if all the other calculations based on them were accurate. The average price of jonna during nine fairly average recent years has been, after deducting 13½ per cent. as an allowance for the difference between the wholesale rates obtained by the ryot and the retail rates recorded in the price lists, Rs. 133 per garce for the whole district, or deducting 15 per cent. as was done in Koilkuntla, Rs. 131 per garce. This is Rs. 8 below the commutation rate adopted in Koilkuntla; but the local rates recorded at markets lying in or near that taluk average 10·5 per cent. above the district rate. If this allowance be made the average has exceeded the commutation rate in Koilkuntla by about six rupees per garce in ordinary years of late. During this period there have, however, been fluctuations of 15 per cent. above and below the average rate, and in the four years from 1290 to 1293 it averaged fully 10 per cent. below the general rate referred to. In Pattikonda, the commutation rate adopted was Rs. 125 per garce, or only eight rupees below the recent district average; but, as far as the information available goes, the district prices exceed those ruling at or near Pattikonda by about 11 per cent. If this be

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allowed for, the average rate there has in recent seasonable years been about Rs. 118·5, and in the four years of low prices already noted about Rs. 105·5. During the last two years, there has, however, been a strong recovery. These calculations, however, take no note of the fact that the lowest prices of the year are about 6 per cent. below the average for the whole. Omitting this, however, the value of jonna has been approximately as follows:—

Section of the district.	Source from which the prices were determined.	Average price of jonna per garce during			Commutation rate adopted.
		Nine seasonable years.	Four cheap years, 1290–1293.	The last two years, 1295 and 1296.	
		Rs.	Rs.	Rs.	Rs.
Kurnool proper..	District prices generally	133	118·5	144	105
Pattikonda ..	Do. do. deducting 11 per cent.	118·5	105·5	128	125
	Local prices	123	112·5	127	125
Koilkuntla ..	District prices generally, adding 10·5 per cent.	145	128	156	139
	Local prices	141	124	157	139

It will be noticed that the prices actually registered locally have been a little more favorable to the ryot at Pattikonda, and a little less favorable generally at Koilkuntla than those derived from the district averages after making the necessary deduction or addition to arrive at the local rates. In fasli 1290, the calculated prices were—at Pattikonda Rs. 101, and at Koilkuntla Rs. 123 per garce, and the district average Rs. 113. In fasli 1294, the district average was forced up by a bad season to Rs. 162 per garce. The rates for the three years immediately preceding the famine were a little higher than the average for the three latest years. Regarding the low prices noted, and their effect on the assessment in Pattikonda, it has been said:*

"The conditions which caused food-grain to be extraordinarily cheap in faslis 1292 and 1293 are never likely to exist again. Upon the soil, after its rest of unprecedented length, fell the timely and sufficient rains of three successive good seasons! and though the rainfall in fasli 1292 was scanty, yet it came at the critical time in sufficient quantity to prevent serious loss. There were fewer mouths to feed in the taluk, and hardly any money among the people. A similar state of things in the neighbouring tracts, and the abnormal costliness of transport operated powerfully in check of export."

It is doubtful, however, whether full allowance has been made in considering this matter for all the deductions made to arrive at the commutation rate, and to compare that with the prices at which the ryot may be forced to dispose of his produce. *If therefore the estimated outturn and the calculations of the cost of cultivation are accurate*, the commutation rate for Pattikonda should be lowered at least to that adopted for Kurnool proper, and that followed in Koilkuntla to not more than Rs. 125 per garce. Nevertheless, it does not appear that the assessments are more than the land can in general be made to bear, nor more than the people will pay as is evidenced by the great recovery in the area of the holdings since the famine; but though the people may exist under such a burden, it must prevent their making any accumulations, such as would enable the ryots to form a reserve store on which to support themselves during an unfavorable season. That this is advisable no one can doubt. Besides this, it appears that the system of calculating the working expenses of the ryot, by which these decrease in proportion to the assessed value of the land, is radically wrong. On the lighter soils a pair of cattle may keep 15 acres under crop, on the better and stiffer soils 30 to 40; on the latter soils manure is seldom used, and crops withstand the effect of drought much longer than on the former; the former encourage the growth of weeds, the latter do not, and are therefore easily cleaned; the plough is more often used, and wears out more rapidly if equally used, on the former than on the latter; and, in fact, within certain limits the expenses for the production of the standard crop jonna vary rather inversely to the quality of the land dealt with.

A statement, showing for each of the settlement standard grains the cultivation expenses, the gross outturn, and the net outturn after the usual percentage deduction for unprofitable portions of fields and the ordinary fluctuations of season, is given

* By Mr. Glenny, late Collector of Kurnool.

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below. The figures represent the averages for each class and sort of soil, and for the district generally, taking all soils together :—

Classification of soil: Class.	Sort.	Average per Acre. Paddy (Wet). Cultivation expenses including cost of seed.	Outturn. Gross.	Net.	Jonna. Cultivation expenses including cost of seed.	Outturn. Gross.	Net.	Korra. Cultivation expenses including cost of seed.	Outturn. Gross.	Net.	Arika. Cultivation expenses including cost of seed.	Outturn. Gross.	Net.
		RS. A. P.	LB.	LB.	RS. A. P.	LB.	LB.	RS. A. P.	LB.	LB.	RS. A. P.	LB.	LB.
II ..	1	17 7 4	2,992	2,245	5 5 9	1,362	1,021	..	..	..	..	..	..
II ..	2	16 1 10	2,656	1,992	..	..	..	..	..	..	..	..	..
III ..	1	14 3 3	2,330	1,746	4 4 2	1,045	784	..	..	..	..	..	..
III ..	2	11 3 2	1,884	1,412	3 8 5	790	592	..	..	..	..	..	..
III ..	3	7 10 0	1,403	1,053	3 2 0	562	420	..	..	..	..	..	..
III ..	4	5 9 2	922	692	2 5 1	364	272	..	..	..	..	..	..
IV ..	1	15 8 7	2,530	1,898	3 15 0	776	580	..	..	..	..	..	..
IV ..	2	12 4 2	2,058	1,543	3 1 1	562	420	..	..	..	..	..	..
IV ..	3	8 0 6	1,529	1,148	2 1 10	355	266	..	..	..	..	..	..
V ..	1	9 4 0	1,833	1,375	3 0 3	571	429	..	..	..	..	..	..
V ..	2	6 11 2	1,267	950	2 0 6	355	266	..	..	..	..	..	..
V ..	3	5 0 4	856	642	1 11 8	243	181	..	..	..	..	..	..
VI ..	1	9 13 4	1,716	1,286	3 12 6	666	500	3 10 8	713	536	2 7 10	864	648
VI ..	2	7 13 4	1,378	1,033	3 2 11	559	420	3 6 2	637	477	1 14 1	648	486
VI ..	3	7 7 8	1,334	1,000	2 12 5	482	361	2 12 5	516	386	..	..	..
VII ..	1	8 11 9	1,550	1,161	2 12 8	509	382	3 5 2	623	468	1 14 1	648	486
VII ..	2	6 7 4	1,166	876	1 15 1	332	249	2 11 10	508	381	1 6 1	432	324
VII ..	3	5 12 9	1,030	773	2 0 6	358	269	2 0 6	341	257	..	..	..
VIII ..	1	6 3 10	1,129	846	1 12 0	296	222	2 8 1	525	392	1 6 1	432	324
VIII ..	2	4 13 3	865	649	1 2 0	186	142	1 15 11	327	245	0 12 0	216	162
VIII ..	3	5 2 9	883	662	1 9 4	240	178	1 9 4	228	169	..	..	..
Average for the district on all soils. ..		12 4 1	2,072	1,556	2 13 7	556	417	2 3 5	381	285	1 4 3	400	300

The average outturn adopted for statistical purposes is given below :—

	LB.
Paddy	1,550
Korra	280
Jonna	448
Arika	386

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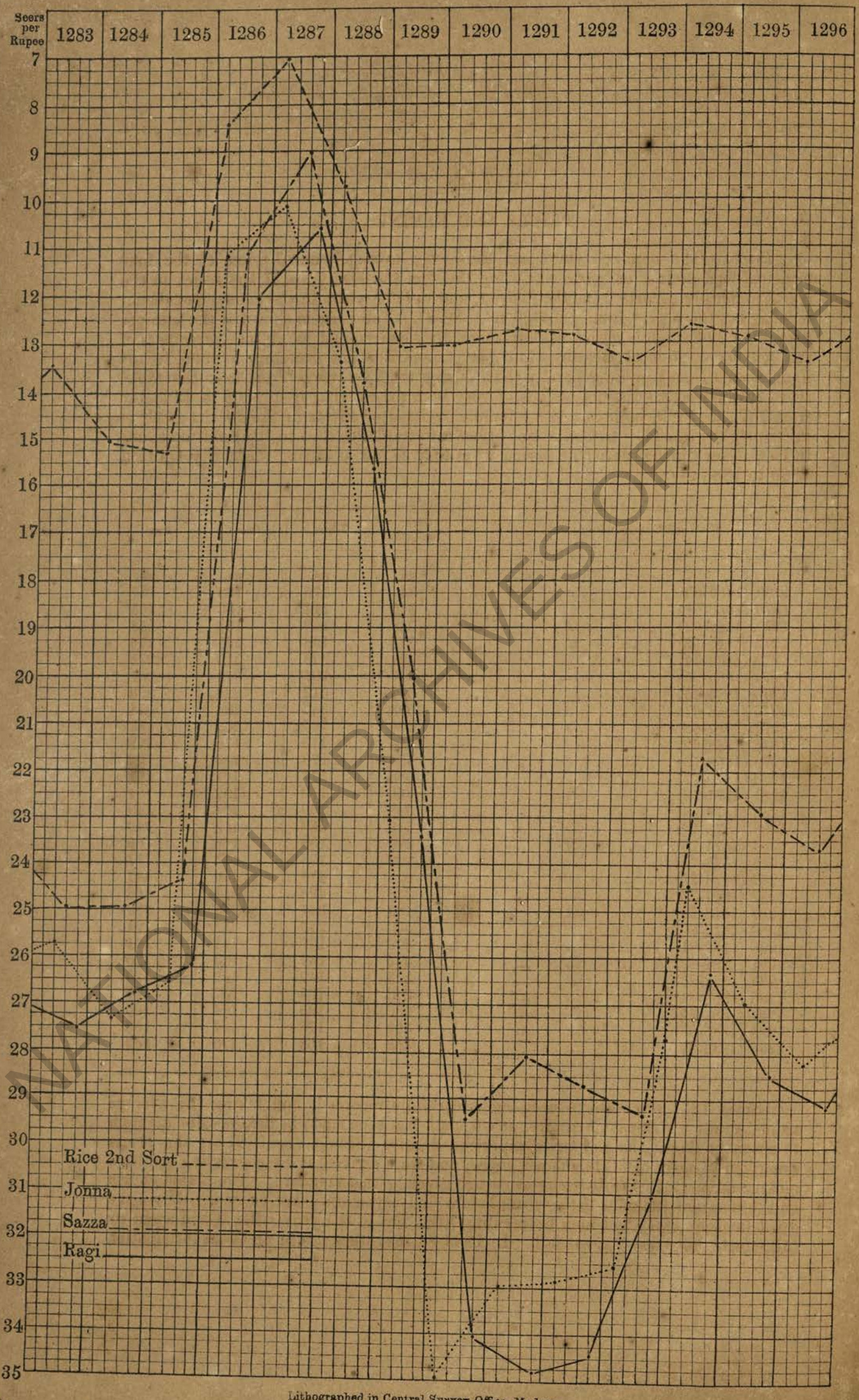
Prices of Food grains for a Series of years - Faslis.



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Lithographed in Central Survey Office, Madras.
1889

CHAPTER IV.

PRICES AND FAMINES.

Prices.—The annexed statement shows the average annual prices of the four principal food-grains, as recorded during the first thirteen years of the series in the regular monthly reports from the district, and in later years in the annual jamabandi reports, for the period from 1859-60 to 1886-87. The price is shown at the rate per *garce* of 3,200 Madras measures, but there are some doubts as to the correctness of the conversion of local measures into *garces*, and it is not necessary to refer to the figures more than to note generally that, during the 28 years referred to in the table, there have been two distinct periods of very high prices, viz., from 1863 to 1868 and from 1876 to 1880, both caused by famine or its after-effects in the district itself or in its neighbourhood. In both cases prices afterwards declined to their old rates, and in fact, never during the whole period were they so low as during the four years from 1880 to 1883:—

Fasli and corresponding year.	Rice, second sort.	Jonna.	Sazza.	Ragi.
	RS.	RS.	RS.	RS.
1269 (1859-60)	344	175	188	160
1270 (1860-61)	346	174	183	163
1271 (1861-62)	348	163	164	153
1272 (1862-63)	373	198	202	176
1273 (1863-64)	494	328	313	275
1274 (1864-65)	517	297	319	281
1275 (1865-66)	511	312	320	298
1276 (1866-67)	593	345	328	314
1277 (1867-68)	435	200	200	182
1278 (1868-69)	416	173	176	168
1279 (1869-70)	414	170	180	163
1280 (1870-71)	383	177	191	162
1281 (1871-72)	355	179	192	154
1282 (1872-73)	348	169	164	149
1283 (1873-74)	343	169	155	149
1284 (1874-75)	315	158	163	169
1285 (1875-76)	322	178	183	177
1286 (1876-77)	624	489	450	447
1287 (1877-78)	726	498	511	466
1288 (1878-79)	499	347	255	299
1289 (1879-80)	379	213	215	194
1290 (1880-81)	376	137	145	134
1291 (1881-82)	375	137	143	126
1292 (1882-83)	373	142	146	129
1293 (1883-84)	348	135	137	146
1294 (1884-85)	382	186	194	166
1295 (1885-86)	390	170	184	153
1296 (1886-87)	368	166	175	152

Since 1873 prices have been more carefully recorded, and taking the average annual prices for the same grains, an attempt has been made in the opposite diagram to show the fluctuations of price experienced since 1873-74 (fasli 1283); the prices are given in seers of 80 tolahs per rupee, and were arrived at by converting the local measures, in which the district reports are given, to that standard. The period shown on the diagram includes three years before and seven since the famine. Before the great famine, prices had long been ruling high, but in the years after it had spent its full effect, there was a great fall. In 1883-84 they were forced up by an anticipation

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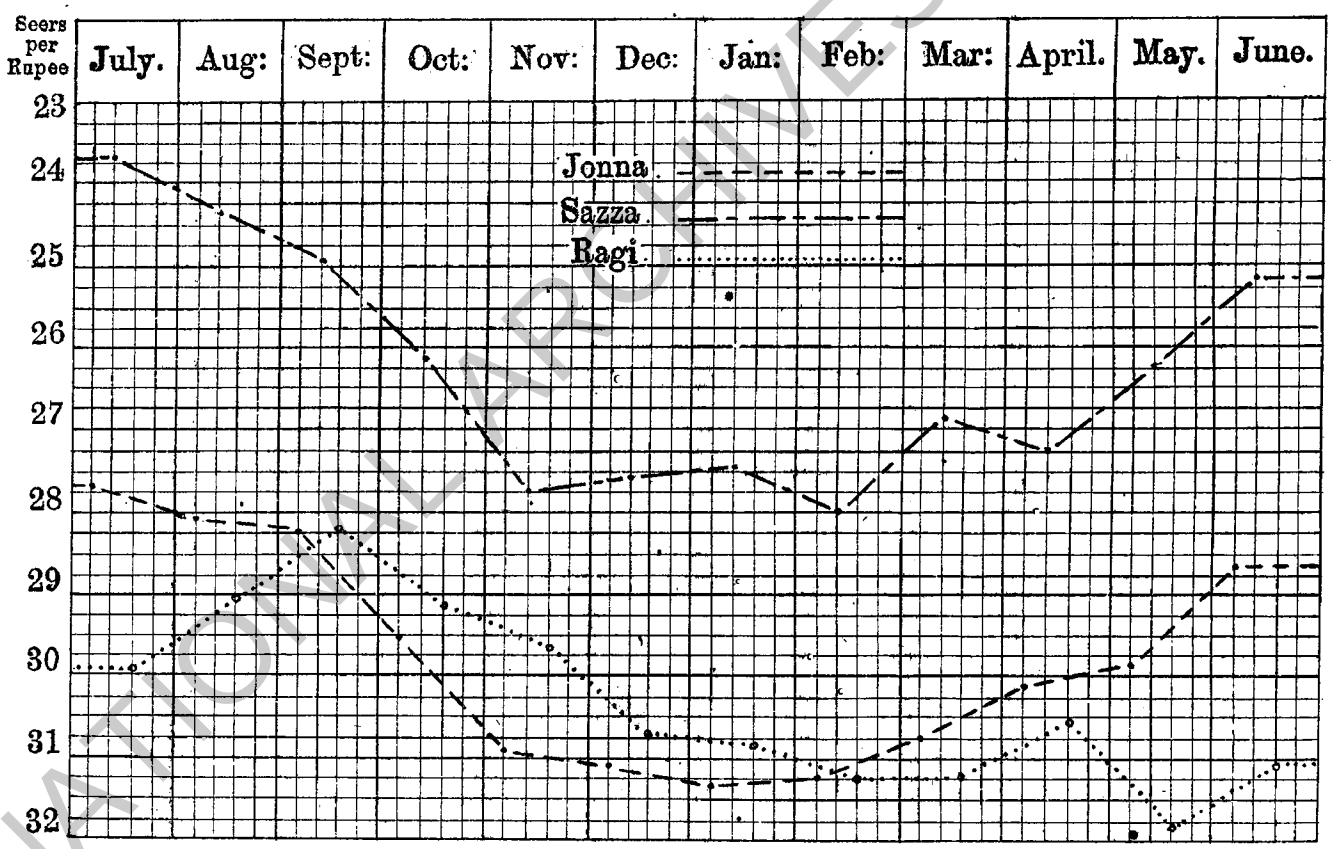
of scarcity, and since then they have not fallen much, but are now, however, at about the same level as they were before the famine. Scarcity rates for the district have been fixed at 9·5 seers of rice and 13·5 seers of cholum per rupee, and should any rise above these rates occur at any time, it is to be reported to Government with a view to the adoption, if necessary, of measures of relief.

Months.	Rice, second sort.	Jonna.	Sazza.	Ragi.
July	13·32	27·67	23·67	29·94
August	13·30	28·09	24·31	29·06
September ..	13·40	28·24	24·93	28·21
October	13·36	29·52	26·13	29·10
November ..	13·44	30·91	27·73	29·61
December.. ..	13·45	31·04	27·58	30·71
January	13·70	31·36	27·48	30·87
February	13·76	31·24	28·00	31·24
March	13·83	30·75	26·84	31·21
April	13·79	30·11	27·23	30·59
May	13·81	29·88	26·23	31·81
June	13·70	28·65	25·13	31·01
Average for the year ..	13·57	29·79	26·27	30·28

The marginal statement shows the monthly average prices of the same food-grains for nine years, during which there was no particular disturbing cause at work to raise or depress them, and therefore the figures indicate the normal variations from month to month. The prices are given in seers of 80 tolahs per rupee, according to the usual Indian method. To bring out the variations clearly, the fluctuations are shown in the following diagram:—



It will be seen that the price of rice is practically stationary throughout the year. This is probably due to the fact that the district produces but little, and the people of it do not use any considerable quantity of this food. Cholum or jonna, which is the staple food-grain of the people, and the price of which may therefore be taken as the measure of the price of food-grain generally, is at its dearest from July to September, but in an ordinary year the price of it begins to fall from July onwards. In October and November, the price drops largely, and the decrease continues through the next two months, and then begins to rise, although there is but little variation

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from November to February. From the latter month the price rises steadily in April and May, and more rapidly afterwards till it again reaches its maximum in July. October and November are the harvest months for the early jonna, and, as soon as that harvest is known to be secure, prices are sent down, and are kept down till the late jonna crop is harvested in February, after which they rise again. It would appear from this that the ryots are forced to part with a good deal of their grain as soon as it is harvested.

Cumbu or sazza also follows much the same general fluctuations as jonna; but with ragi they are somewhat different. Neither of these crops is, however, of much general importance in the district as a food-grain, nor are the prices recorded so trustworthy as are those of jonna.

Altogether prices rise after harvest during the hot weather, and do not fall till the rains have set in; the downward impetus being increased as soon as the early harvest is tolerably certain. The variation during the year is very considerable, and shows that to the ryot, who can hold his grain, a much greater profit will accrue than to the majority who have to part with it at the lower rates ruling about harvest time. It would appear also, from a careful study of the returns, that until June has come, there is seldom any severe rise in prices, but if the rains fail in that month, they jump up at once.

The following statement shows the average price of cholum from month to month during the year at each of the recording stations in the district, given in seers of 80 tolahs per rupee, based on the figures of the last five years (excluding the year of high prices, fasli 1294):—

Stations.	Jonna or Cholum, seers per rupee.												
	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Average.
Piápalle	30·90	33·37	33·99	35·43	37·08	36·67	36·67	35·02	32·96	32·96	32·34	31·31	34·06
Pattikonda	31·47	31·93	32·44	35·23	36·10	36·41	36·57	36·67	32·65	32·96	33·58	32·65	34·05
Kurnool	29·32	30·42	31·10	32·33	32·33	31·65	32·20	31·65	31·24	30·83	30·69	28·50	31·02
Rámallakót	29·28	30·54	30·62	32·23	35·83	32·88	32·02	31·96	32·20	31·30	30·96	29·73	31·63
Nandikótkur	30·96	31·51	31·78	32·88	33·70	33·70	31·78	33·15	32·88	32·61	31·78	30·69	32·28
Atmakúr	30·79	31·62	31·34	32·23	32·81	32·88	33·99	33·73	33·02	31·74	31·99	30·76	32·17
Kalwa	30·35	32·06	33·62	34·18	33·43	35·21	35·07	34·04	33·70	31·51	31·37	28·77	32·78
Nandyál	27·95	28·29	28·22	29·28	29·80	30·07	29·39	29·66	28·56	29·08	28·77	27·81	28·91
Owk	26·86	27·18	29·23	30·34	29·07	29·86	28·44	28·12	28·44	27·49	27·33	25·28	28·14
Koilkuntla	26·39	26·94	27·49	28·12	28·60	28·28	29·23	30·34	28·91	28·76	27·81	26·54	28·12
Chaygalmarri	25·47	24·80	24·83	24·87	25·56	26·62	26·61	27·67	27·95	27·13	26·58	25·35	26·12
Márkápur	28·12	28·12	29·07	29·07	29·70	30·34	31·92	31·60	30·02	30·32	30·02	30·02	29·86
Cumbum	28·68	28·99	28·12	31·28	32·31	32·86	32·07	30·65	30·65	29·39	28·68	28·12	30·15
Average ..	28·96	29·67	30·14	31·34	32·02	32·11	31·93	31·87	31·01	30·47	30·15	28·89	30·71

This typical food-grain appears to be dearest in the Nandyál valley and cheapest in Pattikonda. The variation is considerable; rates ranging from 26·12 seers at Chaygalmarri to 34·05 at Pattikonda, or, in other words, the price is 30 per cent. higher at the former than at the latter station. The prices of the other food-grains do not exactly follow these variations, but as they are of minor importance, no special reference to them is necessary.

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Crop.	Area under each crop.	Estimated approximate yield per acre in	Estimated outturn.
	ACRES.	CWTS.	TONS.
Paddy	53,800	8¼	22,200
Jonna	635,300	4	127,000
Korra	240,700	2½	30,000
Arika	129,900	3	19,400
Sazza	81,000	3	12,000
Variga	20,500	3	3,100
Ragi	14,400	4	2,900
Other cereals ..	9,000	3	1,300
Total, cereals ..	1,184,600	..	217,900
Horse-gram ..	74,800	5	18,700
Bengal gram ..	18,400	4	3,700
Other pulses ..	28,000	6	8,400
Total, pulses ..	121,200	..	30,800
Grand total, food-grains	1,305,800	..	248,700

Food-supply.—An attempt has been made in the calculation given in the margin to estimate the amount of food-grain produced in the district in an average year. The estimate is based on the average areas under the several crops during recent years together with the rates of yield deduced for the grains mentioned in the last chapter, from the figures determined at the time of the settlement and for the others by estimated outturn. The equivalent of paddy for rice has been taken at about two-thirds by weight. The comparatively high outturn taken for the pulses other than horse-gram has been adopted to allow for known omissions in the area under these crops.

The estimated outturn may be said to be nearly 250,000 tons per annum.

The regular consumption may be estimated as follows :—

	TONS.	TONS.
Wastage at 5 per cent.*	12,500	
Seed grain	4,600	
Cattle-food	20,700	
Human consumption	135,700	
		173,500

The approximate rates allowed for seed-grain of different crops are shown in the margin, and they are more than ample as will be seen later on. The allowance for cattle-food is made on the basis of the number of tilling cattle and she-buffaloes in the district, most of which receive artificial food for at least some part of the year, and although cotton-seed is the most important of such foods, an allowance of horse-gram and other grains has been made. In calculating the quantity required for human consumption 1¼ lb.* per head of all ages daily has been allowed, or 4 cwt. per annum on the total population at the last census. The actual current consumption is at present probably considerably higher. On these calculations the possible surplus is about 76,500 tons, or sufficient to maintain the population for about seven months.

	ACRES.	
Seed-grain—		
Paddy	53,800	at 50 lb.
Jonna	635,300	„ 5 „
Korra	240,700	„ 6 „
Arika	129,900	„ 8 „
Other cereals	124,900	„ 6 „
Pulses	121,200	„ 10 „
Cattle food—		
For 150,000 tilling cattle		at 2 cwts.
„ 114,000 she buffaloes		at 1 cwt.

In their replies to the Famine Commission, the Board of Revenue calculated the total annual produce of the district at 452,000 tons, the local consumption at 211,000 tons, and the surplus at 241,000 tons. These figures were based on the cultivated area and population previous to the famine, but are of no practical value at present, for cultivation has decreased greatly and the population has suffered a loss of 25·7 per cent. Moreover, the rates of yield per acre taken by the Board made no allowance for the usual deduction for unprofitable portions of fields and for the ordinary vicissitudes of season. Hence their calculations lead to a large surplus, which is wholly inconsistent with the known fact that the district has little or no export trade in grain.

During long continued droughts practically no produce can be reckoned on from nearly all the unirrigated area, and the outturn must be restricted to about 101,500 acres according to the determination arrived at in another place. Most of this area will produce a single crop of paddy, and the remainder such crops as ragi, sazza, and korra. The total estimated outturn for this area may be taken at 16,850 tons or

* These rates are those taken by the Famine Commission.

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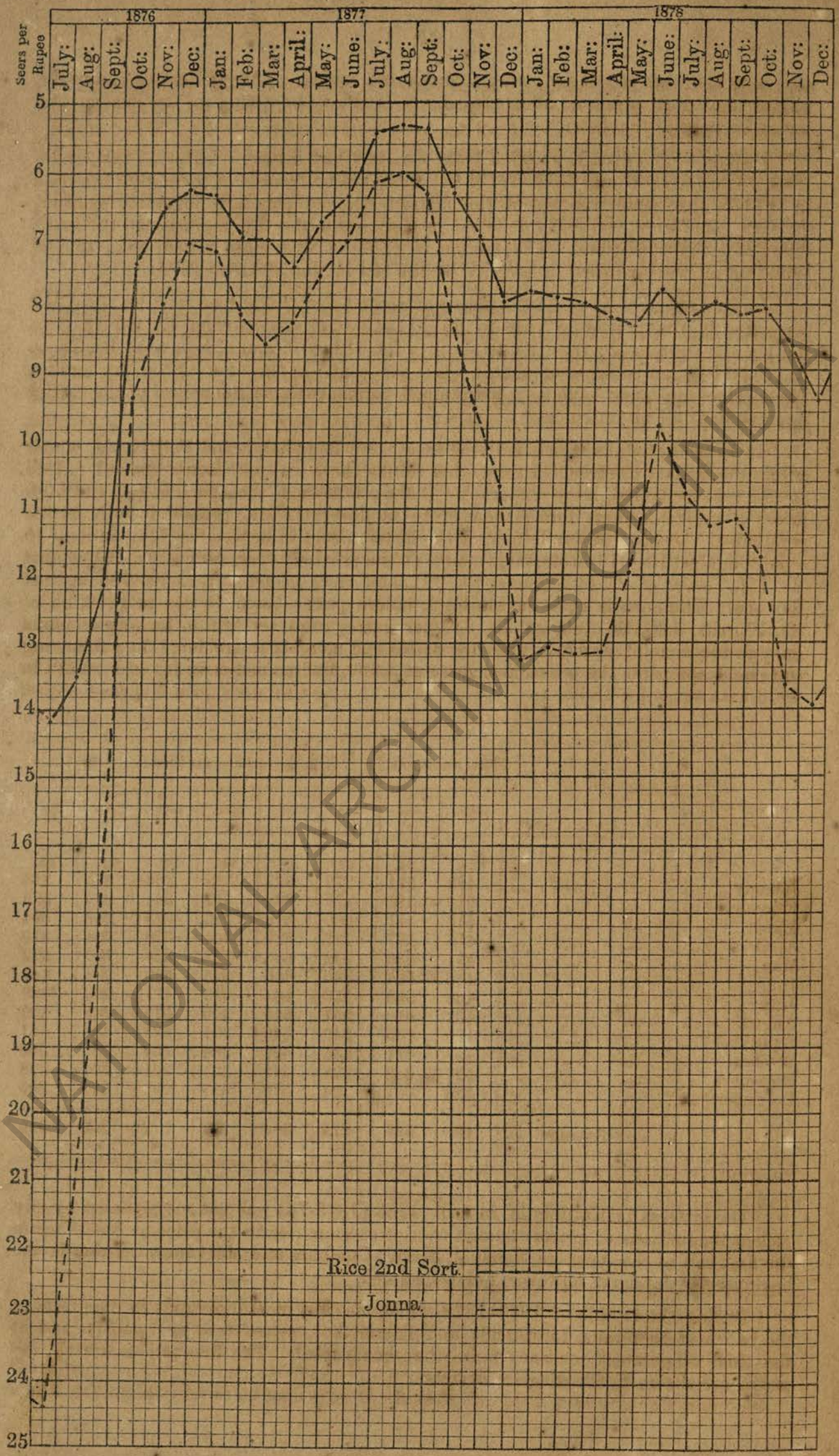
Prices during the Famine Period of 1876 - 78.


1876
1877
1878
July: Aug: Sept: Oct: Nov: Dec: Jan: Feb: Mar: April: May: June: July: Aug: Sept: Oct: Nov: Dec: Jan: Feb: Mar: April: May: June: July: Aug: Sept: Oct: Nov: Dec:
Seers per Rupee
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Rice 2nd Sort.
Jonna.

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Lithographed in Central Survey Office, Madras.
1889

enough to feed the people for about a month and a half. The production, however, will be limited to a few small areas, and will chiefly be found in the central and eastern sections of the district.

Famines.—The district suffered from drought and distress in 1804, 1810, 1824, 1833, 1853-54, 1866, and 1876–1878, but there are no records of the earlier famines. In 1873-74 also, while the rest of the district enjoyed generally favorable weather, the early rains were extremely deficient in Koilkuntla, and this necessitated the institution of relief operations. The famine in 1853-54 was more severe than that of 1866, but all were eclipsed in severity by the last famine of 1876–1878.

In the famine of 1853-54 the prices of second-sort paddy rose from Rs. 72–12–0 per garce in the preceding year to Rs. 117–10–0, of *cholum* from Rs. 86–15–0 to Rs. 176–10–0, of *cumbu* from Rs. 91–3–0 to Rs. 181–8–0, and of *ragi* from Rs. 78 to Rs. 152-14-0 : an increase of almost cent. per cent. in the case of the dry grains. These prices appear to have been maintained permanently, if the record of the earlier figures can at all be relied on.

In 1866 the taluks which suffered most were Rámallakót and Pattikonda, which adjoin the Bellary District. In the other taluks there was not such a general failure of rain ; nevertheless, large exports to Bellary following the short crops, and high prices of previous years forced them up to famine rates and pressed heavily on the population. *Jonna*, the staple food of the district, sold in September 1866 at Rs. 540 a *garce* against Rs. 249 in the same month of the previous year, *ragi* at Rs. 461 against Rs. 236, *cumbu* at Rs. 523 against Rs. 291, and rice, second-sort, at Rs. 706 against Rs. 470. The normal rates having been, before prices began to rise in 1863, about Rs. 170, Rs. 160, Rs. 180 and Rs. 347 per garce, respectively ; or looking at jonna only at the time of greatest pressure prices had more than trebled. The following statement compares the prices per garce of 3,200 Madras measures for each month in 1866 with those for 1865 :—

Months.	Rice, second sort.		Cholum or Jonna.		Cumbu or Sazza.		Ragi.	
	1865.	1866.	1865.	1866.	1865.	1866.	1865.	1866.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
January	483	521	272	322	319	335	276	316
February	510	515	276	333	317	341	259	320
March	518	511	269	319	313	323	267	324
April	476	527	247	329	304	329	264	319
May	491	536	242	340	292	328	239	322
June	486	504	246	356	295	340	233	349
July	498	565	256	464	293	477	253	420
August	497	620	251	515	300	515	239	459
September	470	706	249	540	291	523	236	461
October	498	671	335	427	308	352	281	398
November	527	680	328	341	321	301	304	298
December	526	661	324	328	327	295	310	280
Average ...	498	585	275	384	307	372	263	355

The distress in Koilkuntla in fasli 1283 (1873-74) was not accompanied by any violent fluctuations of prices, though there was some rise in the price of *jonna* during the first half of the year in Nandyál, Sirvel, Cumbum and Márkápur. Towards the beginning of January, however, prices declined.

During the famine of 1876–1878, which also was most disastrous in its effects in the two western taluks, Pattikonda and Rámallakót, prices rose enormously, and at the time of greatest pressure more than quadrupled. The fluctuations during the period are shown in the diagram opposite.

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Prior to July 1876 prices had not risen more than they usually do at that time of year, but the rates of the three previous years had been rather high, the price of jonna ruling about 26·5 seers per rupee, or about Rs. 172 per garce. In July, however, the serious rise began, with the price at 24·4 seers, and by October the rate was three times the normal and continued to increase till December, when less than 27 per cent. of the usual amount of this, the staple food of the people, could be purchased per rupee, and all crops had failed that year. By this time the prices of all food-grains were nearly at the same level, and they continued to fluctuate to about the same degree and in the same manner as long as the pressure lasted. During February, March and April 1877, there was a very slight fall, but after that there was a steady rise to the culminating point in the August following, when only 23 per cent. of the usual amount of the staple food could be purchased for a rupee; and all local stocks were by that time utterly exhausted. From this month onwards there was a general decline till the end of the year, followed by another increase after March till June 1878, rates being forced up in May and June by delay in the rains. After that, prices fell steadily till the end of the year; falling by October to below scarcity rates, and by the end of the year to only about 43 per cent. above the pre-famine rates, at which level they were maintained during 1879, and did not reach their original level till the rains of 1880 had set in. It is scarcely necessary to notice the prices of other food-grains, except to remark that during the period of highest prices from December 1876 to September 1877, the rate for rice, which is usually double or more than double that for jonna, was but little higher; it however kept a little dearer throughout the famine.

The effects of Famines.—The subjoined figures of population, cultivation, and land-revenue collections for the years from 1858-59 to 1886-87 show that, while the famine of 1866 made little or no impression on the district, the recent famine of 1876–1878 threw it back twenty-five years in its history and obliterated all the progress made during that long period :—

Faslis.	Years corresponding.	Population.	Area cultivated.	Land-revenue collections, exclusive of extra collections.
			ACS.	RS.
1268	1858-59 ..	Information not available.	981,385	13,76,814
1269	1859-60 ..		1,007,641	14,23,967
1270	1860-61 ..		1,022,283	13,58,194
1271	1861-62 ..	725,768	1,060,295	14,83,691
1272	1862-63 ..		1,092,635	14,68,111
1273	1863-64 ..		1,120,448	14,32,194
1274	1864-65 ..		1,131,544	14,61,682
1275	1865-66 ..		1,118,279	14,36,716
1276	1866-67 ..	770,857	1,135,247	15,02,286
1277	1867-68 ..		1,148,949	14,73,216
1278	1868-69 ..		1,157,191	14,68,804
1279	1869-70 ..		1,147,103	14,59,324
1280	1870-71 ..		1,160,705	14,73,499
1281	1871-72 ..	914,432	1,143,592	14,44,215
1282	1872-73 ..		1,184,055	14,61,237
1283	1873-74 ..		1,190,832	14,78,665
1284	1874-75 ..		1,213,273	15,02,372
1285	1875-76 ..		1,203,242	15,00,926
1286	1876-77 ..		620,151	1,02,098
1287	1877-78 ..		906,544	12,77,624
1288	1878-79 ..		900,298	16,58,642
1289	1879-80 ..		836,184	14,30,401
1290	1880-81 ..		887,549	13,13,564
1291	1881-82 ..	678,551	887,140	12,79,316
1292	1882-83 ..		944,441	13,09,018
1293	1883-84 ..		988,161	13 49,924
1294	1884-85 ..		983,885	12,53,876
1295	1885-86 ..		1,051,571	13,68,213
1296	1886-87 ..		1,070,199	14,07,428

There is no account of the loss of life during the earlier famines. The loss during the last famine has already been shown in taluk detail, and amounted to 235,881, or 25·80 per cent. when compared with the population censused in 1871. If the normal growth of population, which must have occurred between 1871 and the advent of the famine, be taken into account, the loss will appear much heavier, whilst during, and for some time after the famine, the birth-rate was extremely low.

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The following statement, which shows the average area of Government land occupied and cultivated in each taluk of the district during two periods (the first period being the nine years immediately before the famine, and the second the six years after the famine had shown its full effect); the minimum area occupied since the famine of 1876–1878; and the area occupied and cultivated in the most recent year (fasli 1296), is interesting, as showing the effect of the famine of 1876–1878, and the course of events since that time. It is not possible to treat these matters in greater detail, as the records for the purpose are not available. Particulars are therefore shown according to administrative divisions only:—

Taluk.	Average before the famine, fasli 1277–1285.			Minimum since the famine.			Average since the famine, fasli 1291 to 1296.		
	Area occupied.	Area cultivated.	Per cent. of occupied area cultivated.	Area occupied.	Fasli.	Per cent. on average before the famine.	Area occupied.	Area cultivated.	Per cent. of occupied area cultivated.
	ACRES.	ACRES.		ACRES.			ACRES.	ACRES.	
Pattikonda ..	252,265	246,267	97·6	172,543	1,290	68·4	201,923	191,904	95·0
Rámallakót ..	205,930	201,587	97·9	136,920	1,289	66·5	171,137	163,698	95·7
Nandikótur ..	181,808	175,246	96·4	130,607	1,290	71·8	143,803	136,093	94·6
Nandyál ..	146,668	141,172	96·3	122,275	1,289	83·4	128,085	120,333	93·9
Koilkuntla ..	135,536	133,033	98·2	122,215	1,290	90·2	126,115	121,354	96·2
Sírvel ..	120,101	114,938	95·7	96,804	1,291	80·6	104,186	96,879	93·0
Total, six taluks ..	1,042,308	1,012,243	97·1	781,364	..	75·0	875,249	830,261	94·9
Cumbum ..	82,537	78,619	95·3	80,286	1,291	..	82,325	75,690	91·9
Márkápur ..	87,086	81,243	93·3	82,470	1,288	..	91,322	81,615	89·4
Total ..	169,623	159,862	94·2	162,756	..	..	173,647	157,305	90·6

Taluk.	Actuals for latest year, fasli 1296.			Percentages of area occupied.			
				Average since on		In latest year on	
	Area occupied.	Area cultivated.	Per cent. of occupied area cultivated.	Average before the famine.	Minimum.	Average before the famine.	Minimum.
	ACRES.	ACRES.					
Pattikonda ..	231,171	223,617	96·7	80·0	117·0	91·6	134·0
Rámallakót ..	186,830	179,946	96·3	83·1	125·0	90·7	136·5
Nandikótkur ..	156,714	145,631	92·9	79·1	110·1	86·2	120·0
Nandyál ..	133,177	124,587	93·5	87·3	104·8	97·6	108·9
Koilkuntla ..	129,599	126,029	97·2	93·0	103·2	95·6	106·0
Sirvel ..	113,783	105,567	92·8	86·7	107·6	94·7	117·5
Total, six taluks ..	951,274	905,377	95·2	83·9	112·0	91·4	121·7
Cumbum ..	83,768	77,103	92·0	..	102·5	..	104·3
Márkápur ..	99,718	87,719	88·0	..	110·7	..	120·9
Total ..	183,486	164,822	89·8	..	106·7	..	112·7

In looking at this table, it is first necessary to note that the introduction of the new settlement having been carried out in Cumbum during faslis 1286-87 and in Márkápur during fasli 1287, any comparison of the *ante* with the *post* famine areas in those taluks is of no value. In the other six taluks the famine threw 25 per cent. of the area occupied out of occupation; the decrease varying from 9·8 per cent. in Koilkuntla to 33·5 per cent. in Rámallakót. In the two western taluks the decrease amounted to 32·5 per cent.; these taluks, it will be remembered, lost 37·4 per cent. of their population. Nandikótkur suffered nearly as much, and there the decrease was over 28 per cent., whilst in Sirvel, it was nearly 20 per cent. Since the full effect of the famine was shown, there has been an average recovery in these taluks of 12 per cent. on the minimum occupied area, the greatest recovery being in the three taluks which suffered most, amounting to as much as 20 per cent. in the two western taluks, so that the average total area occupied in recent years amounted to 84 per cent. of the pre-famine area and in the two western taluks to 81 per cent.; whilst in the last year, for which figures are available, the recovery on the minimum amounted to nearly 22 per

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cent., or, in other words, the area now occupied is only about 8½ per cent. less than that occupied in the series of ante-famine years. The recovery is more clearly shown in the marginal table, comparing the occupied Government area in the last year before the famine with that for 1886-87. When the loss of population is borne in mind, the recovery must be considered most satisfactory.

—	Occupied Government area.		Decrease.	Percentage.
	Fasli 1285 (1875-76).	Fasli 1296 (1886-87).		
	acs.	acs.	acs.	
Pattikonda ..	258,374	231,171	27,203	10·53
Rámallakót ..	214,827	186,830	27,997	13·03
Nandikótkur ..	185,228	156,714	28,514	15·39
Nandyál ..	147,854	133,177	14,677	9·93
Koilkuntla ..	135,758	129,599	6,159	4·54
Sirvel ..	117,507	113,783	3,724	3·17
Total for 6 western taluks..	1,059,548	951,274	108,274	10·22

In the two eastern taluks it is, for the reason noted above, only possible to note the increase since the famine; this has been on the average 2·5 per cent. in Cumbum and 10·7 per cent. in Márkápur, with 4 per cent. in the former and 20·9 per cent. in the latter for the latest year. Márkápur lost a very small proportion of its population, and has a very large proportion of its arable area available for occupation.

In the six western taluks the ryots cultivated 97 per cent. of their holdings before the famine, but since it they have only been able to cultivate about 95. In the two eastern taluks, before the famine, the proportion was apparently 94·2 per cent., and since, it has been 90·6. In the latest year, though there has been an increased area under occupation, the proportion cultivated has not materially increased on the whole, and showed a marked decrease in Márkápur and Nandikótkur, where there is much available waste, evidently owing to the ryots' rushing to take up lands in excess of their capacity for cultivation.

The famine threw a large area of the poorer lands out of occupation and cultivation as is shown by the following figures, from which it will be seen that the average rate of assessment per acre over the dry land occupied since the famine has been 10 per cent. higher, and on the cultivated land 11 per cent. higher than it was on the land occupied and cultivated before the famine:—

Taluk.	Average rate of assessment per acre, dry.				Percentage of *post* on *ante* famine rate.	
	Occupied		Cultivated			
	Before the famine.	After the famine.	Before the famine.	After the famine.	Occupied.	Cultivated.
	as. p.	as. p.	as. p.	as. p.		
Pattikonda ..	11 0	11 11	11 1	12 1	108·3	109·0
Rámallakót ..	12 4	13 3	12 5	13 5	107·4	108·0
Nandikótkur ..	16 7	18 4	16 9	18 7	110·6	110·9
Nandyál ..	17 10	19 0	18 2	19 5	106·5	106·9
Koilkuntla ..	20 11	23 7	21 1	23 11	112·7	113·4
Sirvel ..	19 1	20 1	19 5	20 7	105·2	106·0
Average ..	15 5	17 0	15 7	17 4	110·3	111·2

In the years when the full effect of the famine had been developed, the average rate of assessment on dry land held was nearly 13 per cent. higher than it was on the area held before the famine. This is of course natural and is beneficial, as it gives the poorer lands more rest. The figures also bear out the generally-observed fact that the richer lands seldom get any rest from cropping; the ryot leaving fallow only portions of the more lightly-assessed lands that he holds.

Two statements, showing the particulars of uncultivated occupied land on which the assessment was charged or remitted during each year from 1860-61 to 1886-87 in taluk detail, and distinguishing the entries under the heads of dry and wet, are also given in appendix V B and C. The largest areas of such waste charged occurred in the famine years 1876 to 1878, and the two years following—1878 to 1880. The average during these years showing an excess of 343 per cent. on dry land and 137 per cent. on wet land over the average areas so charged in the nine preceding years. During these nine earlier years the average waste area charged had been 37,938 acres of dry

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and 7,299 acres of wet, the largest proportion of the former lying in the Nandikótkur, Pattikonda and Nandyál taluks, and of the latter in Cumbum and Pattikonda; the total of both classes being as follows:—Nandikótkur 16·93, Pattikonda 14·78, Nandyál 14·19, Márkápur 13·92, Sirvel 13·32, Rámallakót 10·88, Cumbum 9·84, and Koilkuntla 6·14 per cent., respectively.

Relief from assessment on dry lands was, as is natural considering the exceptional nature of 'dry remissions,' granted to an appreciable extent in only five out of the twenty-two years for which full details are available. These were the famine years—faslis 1275 (1865-66), 1276, 1286 (1876-77), 1287 and 1294 (1884-85), a year of severe drought. Dry remissions occur in six other years also, as noted in the margin, but the areas concerned are very small, and the remissions were granted not in consequence of drought, but because the lands were rendered unfit for cultivation from submersion and other causes, or because the extreme poverty of the holders and the conditions under which the lands were held rendered the concession desirable. The remission granted in fasli 1278 (1868-69) was for certain lands in the Sirvel taluk lying at the foot of the Nállamala hills, which had been left waste from dread of tigers in the neighbourhood. The extent to which relief was granted to each taluk on its dry holding in faslis 1275 (1865-66) and 1286 (1876-77), which may be taken to represent the periods of extreme drought during the two famines, is shown below:—

During Fasli	Extent.	Assessment.
	ACS.	RS.
1275 (1865-66)	10,090	13,195
1276 (1866-67)	4,155	1,668
1286 (1876-77)	357,793	3,02,183
1287 (1877-78)	145,614	73,021
1294 (1884-85)	4,352	5,085
1270 (1860-61)	624	2,364
1271 (1861-62)	603	1,910
1272 (1862-63)	1,108	1,899
1273 (1863-64)	53	255
1274 (1864-65)	682	1,552
1278 (1868-69)	26	13

Taluks.	Fasli 1275 (1865-66).			Fasli 1286 (1876-77).		
	Total holding.	Waste remitted.		Total holding.	Waste remitted.	
		Area of	Per cent. of total holding.		Area of	Per cent. of total holding.
	ACS.	ACS.		ACS.	ACS.	
Pattikonda	249,948	9,761	3·90	245,004	57,186	23·34
Rámallakót	192,284	..	..	204,983	54,126	26·40
Nandikótkur	164,922	..	..	171,426	34,156	19·92
Nandyál	134,894	329	0·24	142,892	52,940	37·04
Koilkuntla	130,425	..	..	131,871	43,993	33·36
Sirvel	123,066	..	..	112,910	24,118	21·36
Cumbum	74,130	..	..	80,103	42,242	52·73
Márkápur	66,042	..	..	89,876	49,032	54·55
Total ..	1,135,711	10,090	0·88	1,179,065	357,793	30·34

Famine relief.—During the famine of 1866 the largest average number relieved gratuitously per diem in any one month was 2,130. This mode of relief was continued for six months. The highest average number of able-bodied poor employed per diem on famine relief works in any one month was 876. Relief in this form was granted altogether for nine months. The expenditure from public and private resources was Rs. 26,736; of which Rs. 11,720 was spent on gratuitous relief and Rs. 15,016 on relief works.

During the distress in Koilkuntla in fasli 1283 (1873-74), Rs. 10,950 were spent on road-works and Rs. 236 on relief houses.

During the famine of 1876-78, the total expenditure of Government on relief operations was Rs. 87,19,720, of which Rs. 12,50,553 was spent on gratuitous relief and Rs. 74,69,167 on relief works. The numbers relieved are shown in two statements given in appendix VI. The first month in which organised relief was given was December 1876, two months before which the price of dry grains had nearly trebled, and all hope of raising any crop that year had vanished. For thirteen months relief works on a large scale were necessary, and the average number engaged on them was 177,068, reaching, after the works had been fairly organised, in August

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1877, 212,819 as the maximum number. The number on the works fell off greatly in November and December 1877, and from February to June 1878 none were relieved in this way; but in the latter month works were again started for a short time in three taluks owing to failure of the rains, but all works were wound up in December 1878. The number on gratuitous relief only rose to a considerable figure in March 1877, and for 12 months from then averaged 55,774, with a maximum of 107,617 in September. This form of relief was continued throughout 1878 and for the 22 months of severe pressure the average number relieved was 32,956.

With a view to future eventualities, it is however necessary to consider the history of this famine more fully. In 1875, the south-west monsoon rains were scanty and late, but the later rains removed anxiety. In 1876, however, not only did the south-west monsoon rains fail, but the later ones also, and by October in that year prices of food-grains were three times as high as the normal rates. During that month grants were made for opening relief works, but for neither October nor November is any record available as to the numbers relieved. For the week ending 16th December 1876, the number relieved was on works 168,388 and gratuitously 704, making a total amounting to 17·6 per cent. of the population as it stood at the census of 1871. The average for the whole month was 170,625 on relief works and 2,941 gratuitously relieved, or 18 per cent. of the total population, but by the beginning of January 1877, 35·5 per cent. of the population were being relieved. At that time wages were fixed for laborers on relief works so that they should amount to—for a man $1\frac{1}{2}$ lb. grain + 3 pies; for a woman 1 lb. + 2 pies; and for a child $\frac{3}{4}$ lb. + 1 pie. On the 14th January, Sir R. Temple reached Kurnool on special deputation from the Government of India, and orders were issued on the 31st idem to restrict State relief to those who without it would be in danger of perishing, and the grain wage was considerably reduced, *i.e.*, to 1 lb. grain + 6 pies for a man, 1 lb. grain + 3 pies for a woman, and $\frac{1}{2}$ lb. grain + 3 pies for a boy or girl. These measures had practical effect during February; the numbers relieved at the beginning of that month which amounted to 31 per cent. of the population sinking to 21 per cent. at the beginning of March. The result of these measures may be gathered by contrasting the numbers on different forms of relief at certain periods—

Numbers on	On the last day of the week ending				
	6th January.	3rd February.	3rd March.	7th April.	5th May.
Relief works	323,343	291,211	197,270	216,765	204,789
Gratuitous relief	17,379	3,674	3,651	46,841	64,817
Total ..	340,722	294,885	200,921	263,606	269,606
Percentage of population ..	35·5	30·7	20·9	27·5	28·1

During January 32,132 and during February 93,941 persons were turned off relief works, whilst 13,705 more were denied gratuitous relief during January. Some of these probably died, but numbers apparently came back on gratuitous relief during March and April, the number so relieved reaching 64,817 during the week ending 5th May.

If the figures for the first week in March be taken as indicating the number of persons whom it is imperatively necessary to relieve at the beginning of a famine, they amount to nearly 21 per cent. of the population, of which only a very small proportion need be gratuitously relieved. Regarding these numbers, however, it must be remarked that the results experienced in 1877 showed that the refusal of succour to some of the 340,000 relieved in January undoubtedly caused a great increase in the numbers gratuitously relieved in later months. The fact that in the famine of 1876–78 the numbers on relief works were lower from April 1877 onwards than at the beginning of that month, speaks volumes as to the exhaustion of the people, as also does the greatly increased number gratuitously relieved when the next season of lost crops had come upon the people. Bearing in mind, however, the fact that in December 1876 the average number of persons on relief of any sort amounted to about 18 per cent. of the total population, it would perhaps be safe to estimate the numbers likely to be in need of immediate succour in case of a famine at one-fifth of the population. On the population including the Native State of Bánganapalle in 1881, this would

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amount to nearly 142,000 people. Of these, at the district average rates, about 18,900 would be children of under 8 years, and about 6,900 persons of 60 years and upwards. These would probably be unfit for labor on relief works, although some of the children might be supported by their parents working there. Deducting these, there would remain 116,200 persons, of whom nearly 18,400 would be children of from 8 to 12 years, 47,400 women and girls, and 50,400 men and boys, for employment on relief works.

Besides these, there would be a number of persons who would undoubtedly have resources to carry them on for some time, but the figures for the famine of 1876-78 do not afford data on which to determine their number. During that famine the maximum monthly proportion was relieved daily during August 1877, when the rate reached 31·24 per cent. of the pre-famine population. It was 35·5 per cent. in the first week of January and 31·33 per cent. during the first week in September 1877. Taking the average figures for August by themselves, it will be seen that of the total average number relieved (299,804), 71 per cent. were on relief works, and the remainder were gratuitously relieved. During September the number on gratuitous relief rose to 37 per cent. of the total number relieved—a fact which marked the utter exhaustion of the people, for the proportion of aged persons and young children in the district only amounts to about 18 per cent. of the population, and the death roll had before this reached a portentous height, and which points to the necessity for a wider scheme of relief works in cases of prolonged famine. Probably, therefore, it would not be safe to estimate the number who would ultimately come on relief at less than half the population, or about 354,600 persons according to the census figures of 1881, and that 82 per cent. of these should be for relief on works and 18 per cent. for gratuitous relief. The final result of this estimate, including the Native State of Banganapalle, is therefore—

Number who would come	On works.	Gratuitous relief.
On relief at once	116,200	25,900
Ultimately on relief	174,600	37,900
Total number to be relieved in a prolonged famine ..	290,800	63,800

No programme of works suitable for famine relief in the future has yet been prepared for Kurnool, but the following list enumerates works which are in a measure suited for relief works, with all the information available at the present time :—

Works.	Estimate.	Estimate cost of earth-works.	Would afford employment for		Remarks.
			Men.	Months.	
Kurnool-Cuddapah Canal.	Rs.	Rs.			
Diversion at Tangédantsa.	60,000	No information.			Estimates prepared; work could be marked out at once.
Distributaries	4,00,000	Do.			Plans and estimates under preparation; some are understood to be ready. The works will be carried out as funds permit, but it is likely to be some years before they will be completed. Should occasion arise, they can be proceeded with at any time.
Velgode Extension project.	1,50,000	Do.			These projects, intended to extend the area to which the canal water can be distributed, are as yet merely under investigation; but there is every probability of their being carried out as soon as funds can be made available.
Modkur do. do.	1,50,000				
Hindri Basin.					
Tékur reservoir		4,50,000	20,000	8	Partly investigated by the officers of the Madras Irrigation Canal Company.
Dévanapully reservoir		9,00,000	30,000	12	Partially investigated by Madras Irrigation and Canal Company and abandoned owing to length of bund and importance of villages swamped.

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Works.	Estimate.	Estimate cost of earth-works.	Would afford employment for		Remarks.
			Men.	Months.	
Kistna.	Rs.	Rs.			
Great Kistna reservoir ..	..	..	..	..	Proposed by Sir A. Cotton. Nothing done.
Gundlakamma Basin.					
Mamidivaram reservoir ..	..	..	20,000	90 to 100	This project has been, to some extent, investigated; it is not recommended, as scantiness of population prevents extension of irrigation.
Venkatareddipalem tank restoration.	About 46,000	42,000	5,000	4	The tank is described as a splendid one, and is said to have breached at least a century ago owing to the absence of adequate surplus works, the weir being only 10 feet long and the catchment basin 15 square miles. Preliminary report made in 1876; nothing since done.
Talarycheruvu Dyalla tank restoration.	20,00,000	..	..	..	Preliminary report received; nothing since done.
Aravid tank restoration ..	About 20,000	18,000	2,000	4	
New tank south of Aravid.	No information.		5,000	4	The proposed site said to be a good one.
Other tank sites in Márkápur taluk.	Do.		..	..	The taluk abounds in favorable sites for the formation of new tanks.
Duvulair project ..	Do.		2,000	2 to 3	The District Engineer stated, in August 1877, that plans, sections, and estimates were under preparation. The scheme is for cutting a channel 3¾ miles in length, 9 feet bottom width, and side slopes 1½ to 1 from the Duvulair to the Dupad tank. It is said that a part of the channel would have to be cut through rock; 74,000 cubic yards are the estimated quantity of excavation. Partially investigated in 1877; nothing since done.
Kalavatala tank project ..	50,000	..	5,000	3	The only information available is that contained in G.O. No. 2240 of the 2nd September 1871, in which it is stated that the cost was estimated at Rs. 50,000 and the returns at 15¾ per cent. Partially investigated in 1871; nothing since done.
Tank Maintenance and Repair.	..	..	..	..	The Tank Maintenance Division has already submitted estimates for the repair of 19 works at a cost of Rs. 21,000. This probably represents about one-tenth of the work under this head requiring to be done in the district. The investigation should be complete in the course of two years more, and it may be hoped that within six years most part of the repairs will have been carried out. But this must depend entirely on the extent to which funds are available.
Feeder roads for the Bellary-Kistna State Railway.					
(1) Atmakúr, *viâ* Nandyál to Koilkuntla, 54 miles.	24,580	..	..	..	To lead traffic to Nandyál railway station from the Atmakúr 34 miles north, and Koilkuntla 20 miles south.
(2) Banganapalle to Panem Railway station.	15,000	..	..	..	Portion in this district, 7 miles. The rest is to be constructed by the Banganapalle Nabob, who has expressed his willingness to do so.
(3) Mundlapad to Giddalur station (Cumbum taluk).	3,500	..	..	..	Length 4 miles.
(4) Turimella to Bestavarapupeta station (Cumbum taluk).	7,800	..	..	..	Do. 8 ,, } To connect important villages with the railway.
(5) Márkápur to Venkatapuram station.	3,700	..	..	..	Do. 3 ,,
Feeder road for the Madras Railway at Erraguntla.					
Koilkuntla to Nosam ..	20,500	..	..	..	This is a continuation of the road from Atmakúr, *viâ* Nandyál, to Koilkuntla, towards the frontiers of the Cuddapah District, where it will join an existing road; length 20 miles.
Road from Koilkuntla to Rámapuram.	..	..	..	..	To connect with feeder from Owk to Tadpatri.
					About Rs. 20,000 are at present annually available from the road fund for new works. Each mile of new road completed, by adding to the charge for maintenance, lessens *pro tanto* the amount available for new works.

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CHAPTER V.

AGRICULTURAL CONDITIONS.

Introductory.—It is evident from what has been already said that the district is almost purely an agricultural one. Practically the whole population is dependent on the success of agricultural operations. It is, therefore, only necessary to deal with its condition on an agricultural basis. The district has, for this purpose, been divided into nineteen agricultural tracts, which, for convenience, have been named after some typical village or leading natural feature in them. They are enumerated in the margin and are shown in the map, and will first be very briefly described. The villages included in each tract are shown in appendix VII. The leading principle of division has been to group together all villages with similar soils; for this purpose, the average assessment per acre of dry land in each village, assisted by local knowledge as to what sort of soil this indicates, has been the chief guide. It has been necessary to consider, however, also existing irrigational facilities, peculiarities of cropping, elevation, geological formations, stock kept, and rainfall.

(1) Kurnool.
(2) Bellagal.
(3) Hosúr.
(4) Piápalle.
(5) South Erramala.
(6) North Erramala.
(7) Nannur.
(8) Nandikótkur.
(9) Atmakúr.
(10) Nallamala.
(11) Kundér.
(12) Owk.
(13) Chaygalmarri.
(14) Sagilér.
(15) Gundlakamma.
(16) Basinepalle.
(17) Cumbum.
(18) Vémulakota.
(19) Dupád.

The Kurnool tract is a plain of black-cotton soil, lying on the granitic formation of the Deccan; it lies at the northern extremity of the Mysore plateau, and is bounded on the east by the out-crop of the 'Kaddapah' rocks. West of this tract, and dividing it from the more elevated portions of the same plateau that lie within the district boundaries, comes the Bellagal tract; one of mixed soils and mixed cropping, portions of it being covered by cotton-soil and others by loams, and part by red gravelly soils directly derived from the rocks on which they rest. In places this tract is much broken up by rocky hills and bosses. South of the extreme western end of the last lies the Hosúr tract, which, in reality, forms part of the Bellary cotton-soil plain. Enclosed almost entirely on the north and west by the last two tracts lies a division of very broken country, with thin red gravelly soils prevailing throughout, dependent almost entirely on the early rains, to which the name Piápalle tract has been given. This tract also is bounded on the east by the 'Kaddapah' rocks in the Erramala range, and the portion of those hills, lying to the south of the second valley already alluded to as breaking through them forms the South Erramala tract,—a country of high table-lands and deep valleys; few villages and much scrub jungle where cattle-breeding is extensively carried on. This latter tract extends into the Koilkuntla taluk, but, exclusive of that portion, all the other tracts named lie in the taluks of Pattikonda and Rámallakót, and form the true western section of the district.

North of the valley, which crosses the Erramalas near Piápalle, lies the North Erramala tract, which is, for the most part, an elevated table-land gradually sinking down to the east and north covered by large expanses of scrub jungle intermixed with patches of arable land of the most varied description. This tract lies in the Nandyál and Rámallakót taluks, and is bounded on the north by another tract (Nannur) of very similar character, but covered with soils generally of richer and stronger character, which extends also into the taluk of Nandikótkur. These tracts form a section separating the central and western portions of the district from one another.

East of these tracts, and covering the greater part of the last-named taluk, but including a portion of Nandyál, is the tract named after the taluk, in which the prevailing soils are '*baraka*,' a red gravelly pseudo-lateritic soil, and *régada*, dispersed and intermixed in a manner which defies any accurate grouping on a large scale. This tract covers the water-parting between the Kundér and the Kistna, and extends to the banks of the latter river; through it the Kurnool canal passes, and in it most of the irrigation under that canal, except in so far as a few isolated patches further south are concerned, lies.

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South of this tract lies the open Nandyál valley, covered with a sheet of black-cotton soil, and extending over parts of three taluks, Nandyál, Sirvel and Koilkuntla, and stretching on southwards into Cuddapah; to this tract the river draining it has given its name, the Kundér. In Koilkuntla, on the west, lies another tract, between the pure black-cotton soils of the Kundér and the South Erramalas, much broken up by hills, and with soils of the most varied description, often much covered with stones to such an extent as 'to give it the appearance of a disused grave-yard,' and in which the agricultural practices and conditions differ considerably from those of the last-named tract. This has been called the Owk tract from the village of that name.

East of the Kundér, at the extreme southern end of the district near the cusbah of the Sirvel taluk, is a tract (Chaygalmarri) in which *régada* soils alternate with *masabu* and *tuvva*, and in which is found the only well-developed well irrigation system in the district west of the Nallamalas. North of this comes a country of *masabu*, *tuvva* and *baraka* soils, lying along the foot of the Nallamalas, in which tanks abound and where irrigation under them is a characteristic feature. North of this again, in Nandikótkur, is a tract (Atmakúr) of very similar nature, also possessing peculiar advantages as to grazing and fuel-supply: so similar is it that it is scarcely necessary to separate the tract at all, except that the tanks found in it nearly all belonging to the river basin of the Bhavanási, which drains into the Kistna, whilst in the Nallamala tract the drainage goes into the Pennér. These last six tracts fill the great central valley of the district.

Crossing the Nallamalas, an entirely different country is met with, and the Cumbum taluk has been divided into tracts chiefly with reference to its drainage areas. They are the Sagilér tract drained by the river of that name into the Pennér; the Gundlakamma tract, which is named after the chief river which feeds the great Cumbum tank, although the tract includes some other valleys running up into the hills; the Basinepalle tract, a country of poor soils drained by a stream joining the Gundlakamma below Cumbum; and the Cumbum tract, which includes those villages which depend mainly on the irrigation supplied by the Cumbum tank. On the north three villages of black-cotton soil of inferior quality have, with 18 villages of the Márkápur taluk, been grouped together to form the Vémulakota tract, whilst the remainder of Márkápur is formed into one tract varying but little in its character throughout. The section east of the Nallamalas is very differently affected by climate from those sections lying to the west of that range.

Soils.—The general distribution of the soils in the district is indicated above. It is usually tolerably uniform over considerable areas, and it is sufficient here to show what the several terms used mean.

Régada is a clay soil, naturally varying much in stiffness, color, and depth. In its best and most characteristic forms it goes by the name of 'Krishna,' 'Achcha,' and 'Nalla' or 'Banka' régada, and is then, when wet, black in color, extremely tenacious and sticky, difficult to work and extremely retentive of water. It dries to a grey tinge, cracks and fissures in all directions, and grinds into a fine impalpable powder. This soil does not foster the growth of weeds, and, when kept under continuous cultivation, requires but little cleaning. If, however, it is allowed to remain out of cultivation for a time, and occasionally in other cases also, the grasses, Hariali (*Cynodon dactylon*) and Kundara (*Ischæmum pilosum*), take complete hold of it, and require special means for their eradication. Observation shows that these grasses are of little trouble in the Nandyál valley, but are a nuisance in the western section of the district.

Régada, or black-cotton soil as it is called, of course varies greatly in value. In some places it is very shallow; in others, much intermixed with pieces of the underlying rock; in some, it lies on a porous, sub-soil; in others, the underlying rock is in the form of sheets, with little downward drainage. Situation also affects its value, but everywhere, if good, it is a soil of great value but little affected by droughts, requiring but little manure, seldom demanding much tillage or cleaning, and therefore inexpensive to work according to the systems of the ryot; but it suffers severely in prolonged heavy rainfall; after rain it is, for a considerable time, practically impassable to men and animals, not to mention carts, and cannot be touched with any implement, and in most situations is not well adapted for irrigation; crops, in fact, in ordinary seasons, doing better on it without artificial watering. The characteristic

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crops of this kind of land are jonna and cotton, with a little indigo, Bengal gram and wheat.

Masaka or *masabu* is a loamy soil, usually blackish in color, and made up of a mixture of régada, with tuvva, baraka, or garuga, *i.e.*, a mixture of clay with sand or gravel. It is not a very widely prevailing soil, but borders on all stretches of régada either where the plains covered with that soil begin to rise to higher levels, or along the banks of streams and rivers where alluvium has been carried over them in floods and freshes. It is more variable in quality than régada, but in the best forms is still more valuable. It is fairly retentive of moisture, produces good crops, is easily tilled, not very liable to become weedy, does not feel heavy rainfall much, soon becomes fit for tillage after rain, readily responds to manuring, and is well adapted for, and easily managed under, irrigation. It will carry almost all crops and is especially suitable for the more valuable, *e.g.*, indigo, paddy, turmeric, tobacco, wheat and linseed. This class of soil also in places goes by the name of '*Yerra-misramam.*'

The two classes of soil hitherto referred to are more or less of uncertain origin; for as yet no really satisfactory theory has been worked out to account for their peculiarities. The most probable theory is one which attributes the origin of régada to deposition in lakes or lagoons. It is not particularly rich in organic matter, but extremely absorptive and retentive of moisture. The consideration of masabu leads next to that of tuvva, baraka, garuga, and morasu. These soils have been formed more or less directly by disintegration, and commonly lie on or not far removed from the rocks from which they have been formed.

Tuvva or *Isuka* is a sandy loam, much troubled with weeds, expensive to till and not particularly fertile, on which crops in dry weather are reported to be very liable to have their roots eaten by grubs, and in continued wet weather are liable to rust. It is fairly well adapted for irrigation, and responds to the application of manure, but the fleeting effect of such applications is shown by the following saying:—

'Thuvvana vésina yeruvu Bápadiki pósina neyyi.'

'Tuvva hungers after manure as a Bráhmin for ghi.'

referring to the reputed craving of the Brahmin for ghi. The characteristic crops of this class of soil are arika and horse-gram.

Baraka, *morasu* and *garuga* or *garusu* are gravelly soils; but the term 'baraka' is only applied to two descriptions of gravelly soils,—one formed of pseudo-lateritic gravel, and the other a soil much mixed with small pieces of shale. 'Morasu,' on the other hand, appears to be applied to soils containing hard, sharp and angular gravel, and the term to be more often used where the gneissic rocks prevail than on the sedimentary rocks; in some cases, land of this class appears more like a piece of newly-metalled road than land under cultivation. In the Cumbum taluk a subdivision of the gravelly soils is made; 'morasu' being held to refer to land in which the gravel is small, but when the fragments are large it is called *rálla-bhúmi*. The name *garuga* or *garusu* is applied in some places to soils which would be called morasu elsewhere, but in others it has a specific meaning, and is applied only to those which contain a quantity of limestone, usually nodular. These last are more highly valued than the ordinary morasu soils.

Altogether these gravelly soils extend over wide areas, and are, on the whole, of low value. They are expensive to work, and can only be tilled when thoroughly moist. They usually suffer at once from the effects of drought, and but little from those of heavy or prolonged rainfall. Their value depends on the amount and nature of the soil mixed with the gravel which characterises them, and, in some cases, are fairly productive; in others, extremely poor. Their outward appearance is very deceptive as a guide to their productiveness.

Erra-néla or *erra-bhúmi* is a name vaguely conferred on a large class of soils, simply owing to their color. It signifies red soil. Usually the soils are loams or sandy loams; but in the eastern section of the district the term *erra-néla*, though used generally in reference to all red-colored soils, specifically also means red clays. These soils have, for the most part, been formed *in situ* and vary from gravels, such

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as *morasu*, and sandy loams, such as *tuvva*, up to clays. The latter are, however, rare except in the eastern section of the district, and there, as has already been noted in referring to the geological formation of the district, are usually poor and thin. The most typical development of *erra-néla* is perhaps to be seen in the Piápalle tract, where the gneissic rock has been weathered down into soil, but it is impossible to give any clear description of the soils as a class, as color is only one of the least important physical characters of the soil. It may be said, however, that on these soils the early crops only are sown, and that castor is the industrial crop produced on them. The poorer sorts are seldom kept in cultivation for more than four years, and as weeds spring up rapidly on them, the land commonly requires a great amount of cleaning. They are usually thin, shallow, and hungry as sedentary soils so often are, and therefore feel heat and drought soon, and the effect of manure applied to them soon passes away. If the rains come early and are well distributed, crops on them produce well; and if late rains come, they often enable the ryot to raise an extra crop of horse-gram on these soils, or to break up waste for the succeeding season. The chief early crop raised on these soils is jonna, which is sown mixed with a great variety of pulses and sometimes a little 'red' cotton, whilst horse-gram is a very common and the only late crop. In almost all sorts of *erra-néla* coarse particles are to be found, which are absent in *tuvva*.

The following saying is interesting as indicating the manner in which things are generally looked at :—

'Achi vachina bhúmi adigidé tsálunu.' — 'A foot of lucky land is enough.'

As to indications of the value of land, the next is a record of common experience :

'Chénipanta koyyagalé chepputundi.' — 'The stubble shows the produce of the field, *i.e.*, what it is capable of producing.

The necessity for suiting your crop to the soil is shown in the following :

'Kshétramerigi vittanamu, pátramerigi dánamu cheyyavalenú.' — 'As you give gifts to those who are deserving, so select the seed for the soil.'

Climate and seasons.—The following proverb illustrates the utter uncertainty of the seasons, and the dependence of the ryot on uncontrollable circumstances :

'Vánarákada, pránampókada, teliyadu.' — 'When rain may come, or life may go, no one knows.'

The truth of this will be shown below.

There is only one meteorological station in the district, and that is situated at the town of Kurnool, and even there the records are only partial and for broken periods, extending over ten years, at two different periods. The average results are shown in the following table :—

Month of the Year.	Barometer.		Dry Bulb Thermometer.				Wet Bulb Thermometer.			Vapour Tension.	Humidity.
	Reduced to 32°.	Daily range.	Mean.	Max.	Min.	Range.	Mean.	Min.	Dep.		
	INCHES.	INCHES.	°	°	°	°	°	°	°	INCHES.	CENT.
January	29·023	·152	74·5	89·3	61·5	27·8	63·5	56·9	11·2	·533	54
February	28·996	·161	79·8	95·3	65·8	29·5	64·4	58·3	12·5	·493	43
March	28·932	·163	85·9	101·4	72·8	28·6	68·1	63·1	12·7	·577	40
April	28·856	·164	90·8	105·1	78·9	27·0	71·3	67·0	13·0	·635	38
May	28·800	·160	89·6	104·5	79·6	24·9	73·6	70·0	10·5	·695	45
June	28·771	·135	84·1	96·1	76·3	19·8	74·0	71·2	6·9	·756	63
July	28·791	·120	80·4	90·6	73·7	16·9	73·1	70·0	5·8	·769	71
August	28·821	·134	80·8	90·7	73·6	17·1	72·9	69·5	6·3	·759	69
September	28·861	·142	80·0	89·6	73·3	16·3	73·2	69·8	6·1	·761	73
October	28·917	·138	79·1	89·2	71·8	17·4	72·4	68·6	6·4	·765	73
November	29·005	·135	76·1	88·1	65·6	22·5	67·6	62·2	8·7	·617	65
December	29·048	·144	73·2	86·4	61·5	24·9	64·4	58·2	9·4	·528	62
Average for the year ..	28·902	·146	81·2	93·9	71·2	22·7	69·9	65·4	9·1	·657	58

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Year.	Sun max. in Vacuo.	Grass min. Ther.	Wind. Daily velocity.	Wind. Mean direction.	Rain. Amount.	Rain. Day.	Clear sky.	General weather.
	°	°	MILES.		INCHES.	NO.	CENT.	
January	138·2	57·2	111	E.S.E. ..	·14	1	78	Clear and fine.
February	146·9	61·4	117	S.E. ..	..	..	84	Do.
March	154·9	68·8	132	S.E. by S. ..	·31	1	79	Do.
April	159·7	75·7	166	S. by E. ..	·30	2	71	Generally fine.
May	156·6	77·4	246	S.W. by W. ..	2·31	6	57	Fine light rain.
June	146·3	75·1	354	W.S.W. ..	4·29	10	30	Cloudy and showery.
July	139·4	72·4	325	West ..	6·63	15	22	Cloudy and rainy.
August	142·3	72·1	298	W. by S. ..	5·61	10	30	Do.
September	141·0	71·1	228	W. by S. ..	7·01	11	33	Do.
October	139·4	68·6	138	N.W. by N. ..	5·01	9	43	Variable and showery.
November	136·2	62·5	132	E.S.E. ..	·88	3	62	Fine passing clouds.
December	137·2	58·4	112	E.S.E. ..	·47	2	71	Fine.
Average for the year ..	144·8	68·4	197	..	32·96	70	55	

From these figures it will be seen that the pressure is least in June and July and then gradually increases till December, after which it gradually again decreases till May. The daily range is greatest in the hot months of March and April and least in July, and averages ·146 inches only. The mean temperature reaches its maximum in April, but is nearly as high in May. March and June show nearly similar mean results, but the maximum is higher in the former than the latter month. July, August and September are months of nearly the same temperature, with a small daily range, whilst in October the temperature begins to fall and the daily range to increase. These aspects continue during November and December, but in January and February both increase, the maximum daily range, 29·5°, being noted in February. The hot months of March, April and May show a daily range of about 27°, and the wet months of July, August and September, of about 16·8° only, the average for the whole year being 22·7°. The first four months of the year are usually clear and fine, with but little or no rain, and the wind blowing with moderate force from about south-east; the force of the wind, however, increases in April and in May, and, when it shifts towards the south-west, it gradually redoubles its force, and usually brings up some rain with it towards the end of that month. June is the most windy month of the year, with usually a fair amount of rain, but the fall of the latter is greater in the three succeeding months during which the wind remains in the same quarter, but loses its force gradually. By the end of September the south-west monsoon has blown itself out, and in October the wind is extremely variable, but often accompanied by heavy showers, especially early in the month. During the remaining months of the year the wind is light, the weather fine, and rainfall of any sort uncertain. These general meteorological characteristics may be taken to apply to the whole of that portion of the district lying west of the Nallamalas, with the exception that the rainfall along the foot of those hills, and especially towards the south, is heavier than in other parts, and that towards Pattikonda it is lighter. In that portion of the district lying east of these hills the rainfall is later, and they feel the effects of the north-east monsoon more fully than the main portion of the district.

Turning now to the available records of rainfall at various stations in the district, it will be seen, by a general reference to the rainfall of the last twenty-eight years, given in the margin, as the average of all stations, with the aid of remarks made in the annual settlement reports, that the weather was rendered unfavorable, especially to crops on 'dry' land, by heavy rains falling within short periods in three years, viz., 1870-71, 1874-75, and 1878-79. The scanty nature or unseasonable distribution of rainfall, in eleven years, viz., 1859-60, 1865-66, 1866-67, 1869-70, 1872-73, 1876-77, 1877-78, 1879-80,

Year.	Rainfall.
1859-60 ..	21·60
1860-61 ..	20·10
1861-62 ..	18·63
1862-63 ..	58·11
1863-64 ..	17·08
1864-65 ..	22·80
1865-66 ..	19·90
1866-67 ..	19·83
1867-68 ..	22·00
1868-69 ..	24·33
1869-70 ..	24·54
1870-71 ..	28·70
1871-72 ..	22·97
1872-73 ..	28·42
1873-74 ..	23·40
1874-75 ..	49·74
1875-76 ..	26·89
1876-77 ..	8·65
1877-78 ..	21·94
1878-79 ..	43·01
1879-80 ..	23·76
1880-81 ..	22·63
1881-82 ..	20·17
1882-83 ..	24·54
1883-84 ..	30·43
1884-85 ..	17·05
1885-86 ..	26·52
1886-87 ..	32·87
Average 1870 to 1887 ..	26·57

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1880-81, 1881-82 and 1884-85, caused loss or injury to crops, and in three of these years produced famine. In six other years, viz., 1860-61, 1861-62, 1863-64, 1867-68 1868-69 and 1875-76, the seasons were generally favorable for dry cultivation in most parts of the district lying west of the Nallamalas, but in the country to the east they were not so favorable and sometimes disastrous. In the years 1871-72 and 1873-74, some of the taluks west of the Nallamalas suffered from unfavorable weather, whilst the rest of the district did fairly. This leaves only six years in which the seasons were generally favorable, and even in them it cannot be said that they were entirely so. No reference to the average rainfall of all stations in the district is of much value, however, as an indication to the character of the season, for it will be seen that in one of these six years this was 58·11 inches, and in another only 22·8; looking, however, at the averages of recent good years, it would appear that the district, as a whole, requires from 25 to 30 inches of rain; but it must always be remembered that the distribution is always more important than the amount in rainfall for 'dry' land, as will be seen by reference to the rainfall of 1861-62, which only amounted to 18·63 inches, and yet, owing to its fair distribution over the year, the season was a favorable one generally and for 'dry' crops especially.

During the period for which figures are given above, in three years only has the rainfall exceeded 33 inches; in six years it was less than 20 inches; and in eight more less than 23 inches. The smallest rainfall recorded in the period was in 1876-77, the year of the great famine, when only 8·65 inches were recorded. The average annual rainfall for the whole period was 25·74 inches, but the figures given up to 1869-70 cannot be accepted as trustworthy, as the system of registration adopted up to that year was defective; in the years since then the average rainfall has been 26·57 inches: but, as it is dangerous to generalise from the average rainfall for so large a district, in order to arrive at a fair idea of the rainfall actually required, it is safer to take the figures of recent years and to group them, as far as possible, according to the natural tracts into which the district is divided, and to follow the custom of the agricultural community in dealing with the agricultural year. This may be said to begin with the Telugu New Year. This usually falls some time in April. It is only after that event that tillage operations for the coming season can, according to the views of the ryots, be properly commenced. It is after that date that the astrologer is consulted for a lucky day on which to begin work in the field. Nevertheless, it does not appear that the Telugu calendar of months is attended to in much besides the above point, especially west of the Nallamalas. The ryot, for practical purposes, divides the year into 27 astral periods (karthulu) and times his operations according to them. The first of these begins about 11th April, and they are approximately of 13 or 14 days' duration. It is best and most convenient to adhere tolerably closely to this division of the year in dealing with this subject. For other reasons, in order to show the character and distribution of the rainfall, it is desirable to adopt the fortnightly average as safer than the monthly: and this nearly coincides with the astral seasons of the ryot, and especially so at the more critical times of the year, if 8th April is taken as the beginning of the first fortnight, as will be seen by the marginal table.

Fortnight.		Karthalu.	
No.	Date.	Name.	Date.
1	8th April to 21st April ..	Aswáni ..	11th April to 25th April.
2	22nd April to 5th May ..	Bharani ..	26th April to 9th May.
3	6th May to 19th May ..	Krittika ..	10th May to 23rd May.
4	20th May to 2nd June ..	Róhini ..	24th May to 6th June.
5	3rd June to 16th June ..	Mrugasira ..	7th June to 22nd June.
6	17th June to 30th June ..	Árudra ..	23rd June to 4th July.
7	1st July to 14th July ..	Punarvasu ..	5th July to 18th July.
8	15th July to 28th July ..	Pushyami ..	19th July to 1st Aug.
9	29th July to 11th Aug. ..	Aslésha ..	2nd Aug. to 15th Aug.
10	12th Aug. to 25th Aug. ..	Makha ..	16th Aug. to 29th Aug.
11	26th Aug. to 8th Sept. ..	Pubba ..	30th Aug. to 11th Sept.
12	9th Sept. to 22nd Sept. ..	Uttara ..	12th Sept. to 25th Sept.
13	23rd Sept. to 6th Oct. ..	Hasta ..	26th Sept. to 8th Oct.
14	7th Oct. to 20th Oct. ..	Chitta ..	9th Oct. to 22nd Oct.
15	21st Oct. to 3rd Nov. ..	Swáti ..	23rd Oct to 4th Nov.
16	4th Nov. to 17th Nov. ..	Visákha ..	5th Nov. to 17th Nov.
17	18th Nov. to 1st Dec. ..	Anórádha ..	18th Nov. to 30th Nov.
18	2nd Dec. to 15th Dec. ..	Jéshta ..	1st Dec. to 14th Dec.
19	16th Dec. to 29th Dec. ..	Múla ..	15th Dec. to 28th Dec.

In the diagram the average annual rainfall for 16 years at the groups of stations lying in the different sections of the district is plotted. The situation of the stations is not in every respect fortunate, nor such as would give us the best results, whilst in one

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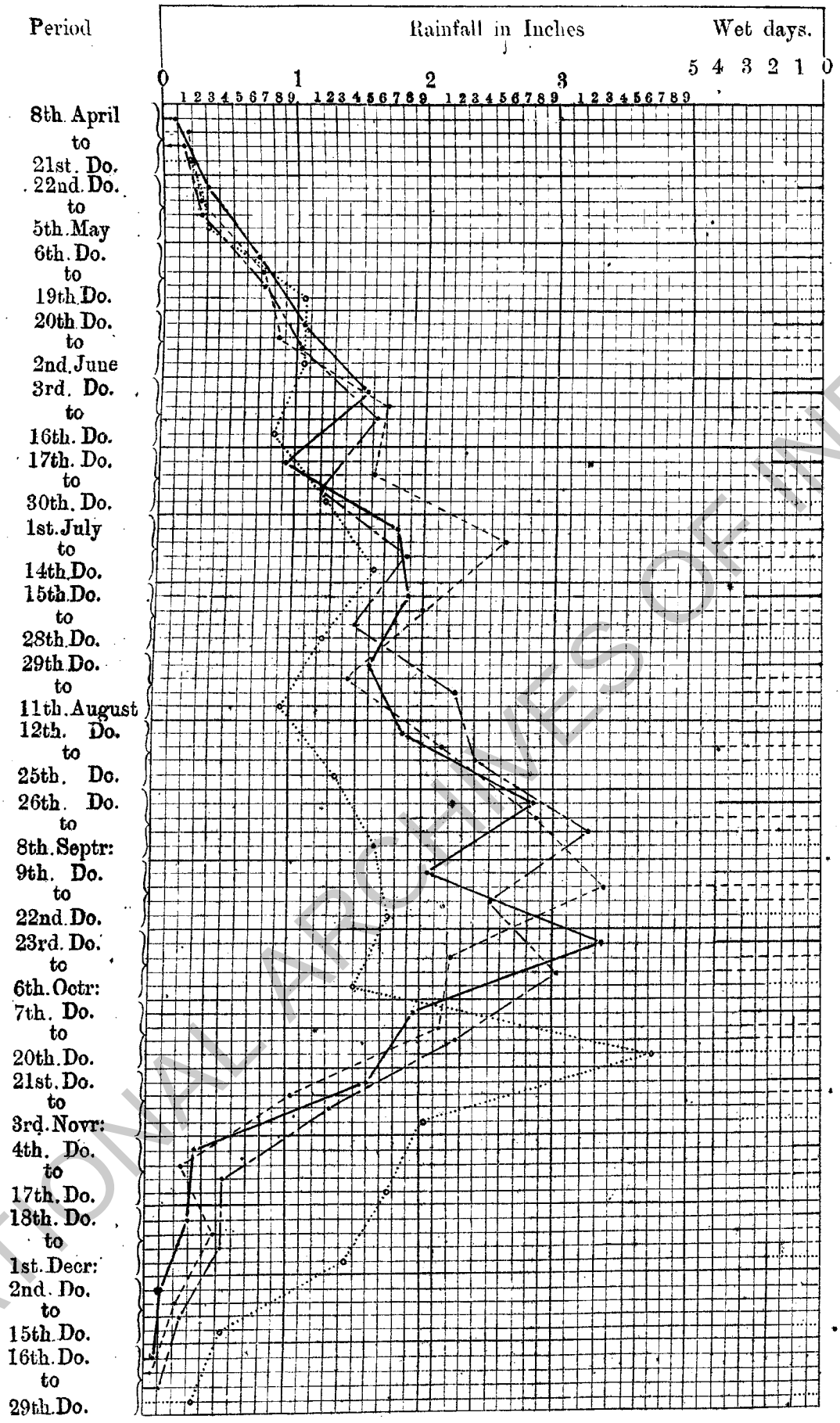

Western Section. ———

N. Nandyal valley. - - - - - -

S. Do Do. — - — -

Eastern Section. .....

Lithographed in Central Survey Office, Madras.
1889

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or two localities, there are large blanks of area within and near which there is no rainfall station. It will be noticed that the diagram only extends over the period from 8th April to 29th December, as within this period practically all the rain of the year falls, and it covers all the important parts of the cultivating season, the harvest of the late crops falling after that date in a practically rainless season. The rainfall in the first three fortnights of the year is not of much agricultural importance, and it is only in the last week in May that any falls of particular value are to be looked for. And, as rain after the early part of November is more harmful than valuable in that portion of the district lying to the west of the Nallamalas, in considering the rainfall of the cultivating season, it is only specially necessary to look at that registered from 20th May to 4th November. Before the earlier date, it need only be noted that hailstorms not infrequently occur during April and May.

In the tracts which form the western section of the district, there is not much variation in the general distribution of the rainfall. Enough rain generally falls towards the end of May or early in June to allow of cultivation being begun, and it is generally much valued if it falls in *Róhini*, but if it be deferred to *Mrugasira* no great harm is done, though this is evidently more commonly the case, and should the rainfall in these two periods be propitious, sowing operations go on briskly, and are favored by the partial intermission shown in the succeeding fortnight. It may be said to be essential for the early crops that a heavy fall of rain should come before the end of June, and the failure of such a fall will always be severely felt in the Piápalle, as well as, though less so, in the Bellagal tract.

From the beginning of July to the middle of August there is usually a considerable fall in every fortnight, which is very beneficial to young crops, and much needed in the Piápalle and Bellagal tracts. The latter end of August (*Pubba*) is a wet period, followed by a slight intermission during *Uttara*, and succeeded by the wettest fortnight of the year—*Hasta*. If these heavy rains begin in *Makha*, they are believed to be extremely favorable. This heavy rain falls usually before the grain crops on the lighter soils flower, and gives the necessary saturation to the régada soils to fit them for sowing the late crops. The lighter falls of rain during October (*Chitta* and *Swáti*) are very valuable to the newly-sprouted white cholum and for sowing Bengal gram, linseed and wheat, but, if at all heavy, do harm to the early crops then near ripening.

The diagram shows so clearly the distribution of the rainfall that a written description cannot add much to them, but a few sayings, current amongst the ryots, may be quoted to show the general opinions as to the kind of weather desired, and what is to be dreaded. The following prognostics are current:

Manchi kálániki mámillu chedu kálániki chintalu.	Mangoes for a good season; tamarinds for a bad one.
Nérédu pandité nélalu pandunu.	If the jambool (*Zizygium jambulanum*) fruits the land will too.
Tellapúlu pantalu pandité, tella jonnalu pandunu, balasapandlu pandité, patcha jonnalu pandunu.	If white flowered plants bear well, the white jonna yields well. If the balsu (*Canthium Parriflorum*) fruits well, the yellow jonna yields well.
Uttaré púrvasasyá—nyaparasasyáni Révati, Bharani sarvasasyáni, sarvamnasayatéswani.	If it rains in Uttara-bhádra, all the early crops will thrive well; if in Révati,* all the later crops will fare well. If it rains in Aswani, all the crops will fail; but if in Bharani, all the crops will thrive well.

The following sayings, however, bear more directly on the subject:

(1) Árudra bindiste aruvai rójulu varapu Árudralo varsham vasté áru kártalu kurusunu.	If there be only a few drops of rain in Árudra, the rain will fail for sixty days, but if it rains, it will for the next six Karthulu.
(2) Áslésha vána arikálu téma. Áslésha kuriste musili yeddu ranké véyunu.	Rain in Aslésha just suffices to wet the sole of your feet (that is to say light showers only fall in Aslésha); but heavy rain in that Karti makes even an old bullock bellow.

* Révati is the Kárti from 27th March to 10th April.

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(3) Mákha vurimité máduru midi karra ayiná pandunu.

If Mákha thunders, even the dead stalk (reed) on the wall-coping will yield.

(4) Pubba réginá bútu réginá niluvadu.

If it rains heavily in Pubba, it will pour without ceasing.

(5) Mákha Pubba varapiché.
Mahattaramainakshámamvache.
Uttara chúchi yettara gampa.
Hastami minchipoyana.

"No rain in Makha and Pubba forebodes severe famine," says one; another adds—
"Wait and if Uttara rains fail, then be off bag and baggage;" but says a third—
'Why? Hasta is not yet over!' There being still some chance of rain in the last named period.

(6) Uttara urimikurisiná, pámu tarimi karichiná tiragadu.

The bite of a snake which chases is fatal; so is rain with thunder in Uttara unceasing.

(7) Hastami ativánakalamu.
Tsastimi gollabóyalárá
Bandamída dodlu véyandi.

Say the flocks—'Hasta is the season of heavy rain. Oh shepherds! fold us upon the rocks, or we shall die.'

(8) Chitta chittaginchi, Swáti dayachési, Visákha visirikottakunte vísániki puttedu pandutánannadi.

If Chitta be kind and Swáti shows favor and Visákha does not blow heavily, the yield will be a putti of grain to a visam* of land.

(9) Swáti vánaku samudrálu nindunu.

The rain in Swáti fills the sea.

(10) Visákha kuristé vishamu pattukoni póvunu.

Rain in Visákha is like poison.

(11) Anóradha kuristé manórógálu póvunu.

Rain in Anórádha drives away mental anxiety.

(12) Múla muruga kurusunu. Jéshta cheda kurusunu.

Rain in Jéshta and Múla are injurious.

Or again—

(13) Múlavána munchaka thíradu.

Rain in Múla will not fail to ruin the farmer.

The following ideas are also current, but the sayings embodying them have not been noted:

(14) With rain in Makha and Pubba, even a Mála woman can earn her food.

(15) Heavy rain in Swáti and Visákha ruins cotton, and injures most other crops, except castor and horse-gram.

Without alluding in particular to the prognostics first given, it may be said that they are interesting as specimens of popular belief. Regarding the other sayings, which refer entirely to that portion of the year which is of importance to the ryot, the application of the eleventh is not clear as regards agricultural pursuits, as cloudy weather during Visákha and Anórádha induces insect attacks on the pulses. It is true that a shower, without cloudy weather, in Anórádha would probably benefit all the later crops greatly. The application of the ninth also is not clear in the part of the country under reference, but may be an importation. Otherwise the sayings show that the latest period at which rain for the early sowings will be of much use is Arudra (the end of June) and the general impression that if rain does not come by that time, the year will be a bad one, and that the early rains will fail entirely; although other sayings indicate that even after that period there is another, Makha-Pubba-Uttara (from the middle of August to the end of September), of great anxiety which culminates in the last Karti, when, as the saying goes, if rain fails, it is best to seek another country, although a caution is added that it is better to wait a little longer. These two periods are those when rain is required respectively for the chief sowings of the early and the late cereals, and the later period is also of great importance as regards the early cereals which are grown on the lighter soils, and require rain almost throughout their growth, but especially shortly before flowering and when the grain has set. The fact that a good fall in Makha indicates a prosperous year is graphically shown in the third and fourteenth sayings, but it is said that too much rain in Pubba is often an evil, as it encourages insect attacks, especially on the castor crop. Hasta is usually a stormy period just before the change of the monsoon, and

* Also interpreted that a visam of seed will yield a putti of grain. A putti is about 1,480 lb. A visam is usually a land measure.

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with it the rains may be said to cease and after it fine weather is greatly desired as is shown in the eighth saying, and this fine clear weather must be continued till the end of the year, although apparently rain is as much desired in the latter half of November (Anórádha), as it is dreaded in the earlier half (Visákha), when it is said to be like poison and injures the grain crops and spoils the grass. These sayings apply generally to the whole district and not to the western section of it only.

As regards the rainfall on the Erramala tracts, we have no record, nor, as far as is known, is there any peculiarity therein, and it probably differs but little from the adjoining tracts to the west. The higher portions, however, from the nature of the rocks and rapid drainage, feel droughts particularly soon, whilst the valleys are generally well off for water in the form of springs, &c. These tracts feel the want of the early rains greatly, if there be any failure of them.

In the northern opening out of the Nandyál valley towards the Kistna, which includes the Nannur, Nandikótkur and Atmakúr tracts, and may be said to be that section of the district which lies between Kurnool and Atmakúr through Nandikótkur, extending southwards to about Kálwa, the rains appear to be later than further west, for they are seldom sufficiently heavy to be really useful till after the beginning of June (in Mrugasira), although occasionally enough falls in the previous fortnight to admit of cultivation being begun; this is much desired, but it seldom comes. From the middle of June to the beginning of August a good and fairly-distributed fall of rain is to be expected, but it is heavier on the eastern side towards the Nallamalas than further west. In the early part of August (*Aslésha*), there is an intermission followed by a period of heavy rain up to the end of September, but sometimes extending into the early part of October, after which the fall is usually very moderate and confined to a few showers only after the end of that month.

In the southern portion of the Nandyál valley, there are three marked zones of rainfall, all following the same general distribution through the season, but varying in intensity. In the Owk tract the rainfall is light, in the Kundér tract it is heavier, and, in the tracts along the foot of the Nallamalas, it is much heavier. In this section of the district rains usually fall in sufficiency for agricultural operations about the beginning of June, and there is, on the whole, a gradual increase in the fortnightly fall till the middle of July followed by a slight intermission till August, which month and September are the wettest of the year, and, as in the section further north, the heavy rain often extends into the early part of October, after which the general character is the same as in that section, although more rain falls in the later months of the year than in either of the other sections of the district previously mentioned. This is apparently due to some considerable amount of the rain brought by the north-east monsoon finding its way over the Nallamalas towards the southern end of the district, whilst to the other sections that monsoon brings but light and infrequent showers.

East of the Nallamalas, the distribution of the rainfall is different. It begins even earlier than to the west, and, till the middle of July, is of much the same amount and distribution; but thenceforward till the end of September, it is much lighter. After the beginning of October, however, the peculiarity of the fall in this section is shown, for during that month very heavy rain may be expected, followed by considerable falls up to the end of December; after which the falls are light and of little consequence.

Taken altogether the average distribution of the rainfall is good, but the irregularities in its coming at all are such as to make agricultural operations precarious. The portions worst off for rain are the Bellagal, Piápalle, North and South Erramala, and Owk tracts, and these are those which feel irregular or short supply the quickest, and especially is this the case in the Piápalle and parts of the North and South Erramala tracts. The wettest portion of the district lies along the western foot of the Nallamalas, and next to it comes the country near Kurnool town.

The average rainfall of the tracts may be shown as follows, those tracts for which no information is available being omitted.

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Tract.	Western Section.						North Nandyal Valley.					
	Kurnool.		Bellagal.		Piapalle.		Nannur.		Nandikotkur.		Atmakúr.	
Period from	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.
	INS.	NO.	INS.	NO.	INS.	NO.	INS.	NO.	INS.	NO.	INS.	NO.
8th April to 21st April	·05	..	·14	..	·08	..	·10	..	·18	..	·27	..
22nd April to 5th May	·29	1	·32	1	·31	1	·31	1	·28	1	·22	1
6th May to 19th May	·56	1	·76	2	·77	2	·63	1	·71	1	·95	1
20th May to 2nd June	1·11	2	1·11	2	·97	2	1·06	2	·76	2	·72	2
3rd June to 16th June	1·54	3	1·63	2	1·52	2	1·52	3	1·48	3	2·23	4
17th June to 30th June	·97	2	1·06	2	·76	2	1·09	3	1·50	3	2·34	4
1st July to 14th July	2·20	4	1·54	3	1·65	3	2·46	5	2·33	4	3·11	6
15th July to 28th July	2·37	4	1·72	3	1·63	3	2·34	4	1·69	4	1·97	5
29th July to 11th August ..	1·70	3	1·50	2	1·66	3	1·76	3	1·53	3	1·07	3
12th August to 25th August ..	1·90	3	1·99	3	1·74	3	2·14	3	2·05	4	2·27	4
26th August to 8th September ..	3·75	5	2·19	4	2·65	3	3·37	5	2·62	4	2·69	5
9th September to 22nd September ..	2·05	5	2·21	4	1·89	4	2·52	5	3·19	5	4·34	5
23rd September to 6th October ..	3·77	4	3·16	4	3·14	4	3·33	4	1·99	3	1·38	3
7th October to 20th October ..	2·00	3	2·10	3	1·89	2	1·93	3	2·14	3	2·39	3
21st October to 3rd November ..	1·67	2	1·71	2	1·44	2	1·53	3	·92	2	·71	2
4th November to 17th November ..	·17	1	·44	1	·49	1	·15	1	·29	1	·34	1
18th November to 1st December ..	·27	1	·30	1	·32	1	·28	1	·39	1	·79	1
2nd December to 15th December ..	·11	..	·13	..	·10	..	·07	..	·17	..	·41	1
16th December to 29th December ..	·07	..	·06	..	·10	..	·07	..	·09	..	..	..
Total, rest of year	·24	..	·27	..	·17	..	·32	..	·38	..	·43	..
Total ..	26·78	44	24·34	39	23·28	38	26·98	47	24·69	44	28·63	51

Tract.	South Nandyal Valley.						Eastern Section.		Telugu Karthulu.
	Owk.		Kunder.		Nallamala and Chaygal-marri.				
Period from	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.	Rainfall.	Wet days.	
	INS.	NO.	INS.	NO.	INS.	NO.	INS.	NO.	
8th April to 21st April	·09	..	·17	..	·20	..	·17	..	Aswani.
22nd April to 5th May	·29	..	·26	..	·28	1	·33	1	Bharani.
6th May to 19th May	·76	1	·77	1	·70	1	1·06	1	Krittika.
20th May to 2nd June	·87	2	1·06	2	1·20	2	1·05	1	Rohini.
3rd June to 16th June	1·25	2	1·76	3	1·91	3	·82	2	Mrugasira.
17th June to 30th June	·76	1	1·25	2	1·62	3	1·27	2	Arudra.
1st July to 14th July	1·28	2	1·91	3	2·48	4	1·63	3	Punarvasu.
15th July to 28th July	1·12	2	1·52	3	1·83	4	1·25	3	Pushyami.
29th July to 11th August ..	2·00	3	2·21	3	2·58	4	93	2	Aslésha.
12th August to 25th August ..	1·87	3	2·31	3	3·01	4	1·35	3	Makha.
26th August to 8th September ..	1·88	2	3·30	3	4·56	4	1·65	2	Púbba.
9th September to 22nd September ..	1·89	3	2·59	4	3·03	4	1·77	3	Uttara.
23rd September to 6th October ..	2·29	4	3·13	4	3·71	4	1·50	2	Hasta.
7th October to 20th October ..	2·19	3	2·18	3	2·48	3	3·73	4	Chitta.
21st October to 3rd November ..	1·20	2	1·40	2	1·41	2	2·01	3	Swáti.
4th November to 17th November ..	·64	1	·51	1	·54	1	1·78	2	Visákha.
18th November to 1st December ..	·56	1	·52	1	·48	1	1·44	2	Anoradha.
2nd December to 15th December ..	·23	..	·27	..	·28	..	·55	1	Jéshta.
16th December to 29th December ..	·08	..	·11	..	·14	..	·35	1	Múla.
Total, rest of year	·16	..	·23	..	·28	..	·54	..	
Total ..	21·41	32	27·46	38	32·72	45	25·18	38	

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CHAPTER VI.

IRRIGATION AND WATER-SUPPLY.

Rivers.—The principal rivers of the district are the Tungabhadra and the Kistna, flowing along its northern boundary, into which portions of the Bellagal, Kurnool and Nandikótkur tracts drain direct; the Hindri, which joins the Tungabhadra at the town of Kurnool, draining nearly the whole of the Bellagal, Hosúr and Piápalle and part of the Kurnool tract; the Bhávanasi, which runs into the Kistna, after draining the Atmakúr and part of the Nandikótkur tract; the Kundér and its tributaries, which drain nearly the whole of the great central section of the district southwards into the Pennér; the Sagilér which drains the southern end of the eastern section of the district into the same river; and the Gundlakamma, which drains the remaining portions of that section independently. The Kistna is of no practical use to the district for irrigation, its course lying chiefly through uninhabited jungles and hills. Seventeen miles above Kurnool a dam has been thrown across the Tungabhadra by which the Kurnool-Cuddapah canal is fed. The Hindri, Bhávanasi, Kundér and Sagilér, and their tributaries supply a few channels which are taken off direct from them or from small anicuts or dams, and, on the banks of some of them, *doruvu* wells, *i.e.*, river face-walls to carry lifts, are constructed and used for irrigation, but are very liable to erosion. The Gundlakamma is dammed to form the great Cumbum tank at a spot where it passes through a narrow gorge, and a few of its minor affluents have been similarly treated, and on the banks of all of them doruvus have been constructed. The Tungabhadra takes its rise in the western ghâts, and freshes in it have never been known to fail, whilst a small stream in it is perennial. The other rivers depend on local rainfall, and cannot therefore be relied upon, although water can usually be obtained in their beds even in the most prolonged drought; and below the Cumbum tank, there is a perennial flow in the Gundlakamma.

Irrigation works will be more fully referred to below according to their distribution in the district, but in the marginal table an abstract of the number shown by the latest quinquennial return, *i.e.*, that for fasli 1296, is given for the district as a whole. The wells may be excluded from reference here. There are, therefore, only 48 works, under which there is an irrigable area of more than 200 acres, the remainder (714) being minor works. Of these works, 90 were said to be out of repair, of which 11 were tanks, 3 spring channels, and one an anicut with ayacuts of above 50 but under 200 acres, and 3 were tanks with ayacuts of over 200 acres. Only one dasabandum work was out of repair, whilst of the 132 private works, 19 were out of repair, 18 being small tanks; and of the 555 Government works, 70 were out of repair, 52 being small tanks and channels.

Works	Tanks.	Anicuts.	Channels.		Wells.
			River.	Spring.	
Irrigating—	NO.	NO.	NO.	NO.	NO.
Under 50 acres	339	14	67	107	8,123
From 50 to 200 acres	141	9	12	25	..
Above 200 acres	46	..	..	2	..
Total ..	526	23	79	134	8,123
Classed as—					
Government	366	9	55	125	409
Private	96	4	23	9	7,661
Dasabandum *	64	10	1	..	53
Total ..	526	23	79	134	8,123

* Dasabandum works are those under which a proportion of the cultivation is not charged for, on condition that the ryots keep the works in order.

The following comparative summary of these returns for the last twenty years throws suspicion on their accuracy in some respects:

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Period (fasli).	Tanks		Anicuts		Channels.				Wells	
					River		Spring			
	In repair.	Out of repair.	In repair.	Out of repair.	In repair.	Out of repair.	In repair.	Out of repair.	In repair.	Out of repair.
1276	502	150	34	6	51	3	190	9	7,766	1,472
1281	496	104	56	7	94	7	197	1	7,717	1,770
1286	491	86	38	7	37	3	230	23	7,306	1,642
1291	322	74	19	5	115	28	44	3	6,537	1,541
1296	451	75	19	4	75	4	127	7	6,581	1,542

The variations are startling, and are ascribed to inaccuracy in the earlier returns, but it appears highly probable that the latest ones are but little more accurate than the earliest, especially as regards the channels and tanks. There was a most extraordinary disappearance of tanks in the return for fasli 1291, which has since been almost recovered: under anicuts, however, half the number formerly existing have gone; why is not clear: whilst the returns of river and spring channels are confusing and contradictory.

In the irrigation accounts all irrigation works, yielding a revenue to Government, are divided into four classes, and the number of works under each class in Kurnool, as shown in these accounts, is detailed below:

Class	I. Productive public works for which capital and revenue accounts are kept	1
Do.	II. Agricultural works for which capital and revenue accounts are kept	None.
Do.	III. Agricultural works for which capital and revenue accounts are not kept, but for which individually a continuous record is maintained	1
Do.	IV. Agricultural works for which no capital or revenue accounts are kept, and for which no continuous record is maintained.	717
	Total ...	719

The one work under class I is the Kurnool canal; that under class III is the Cumbum tank. Of the works under class IV, 46 are imperial works, and the remainder (671) minor works. More than one-third of the works under this class are situated in the Pattikonda and nearly one-sixth in the Márkápur taluk.

The following statement shows the irrigable area under each class of works with the average areas occupied and effectively irrigated and the revenue realised during three faslis 1293 (1882-83), 1295, and 1296. No such statistics are available as to the areas irrigated under private sources:—

Works.	Irrigable area.	Occupied area.		Area effectively irrigated.			Revenue due to irrigation.	Deduct remissions and deductions.	Net revenue due to irrigation.
		First crop.	Second crop.	First crop.	Second crop.	Total.			
	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	RS.	RS.	RS.
Class I. Kurnool canal	*146,971	7,553	483	† 7,553	483	8,036	25,584	1,188	24,396
Do. III. Cumbum tank	5,475	5,359	3,862	5,355	3,861	9,216	38,355	291	38,064
Do. IV. Imperial works ..	20,006	18,391	4,935	18,111	4,935	23,046	70,511	3,036	67,475
Minor works ..	31,851	29,497	5,407	28,639	5,404	34,043	97,190	8,947	88,243
Total	51,857	47,888	10,342	46,750	10,339	57,089	1,67,701	11,983	1,55,718
Grand Total ..	204,303	60,800	14,687	59,658	14,683	74,341	2,31,640	13,462	2,18,178

* This represents the area for which distributaries are said to have been provided.
† Includes lands taken up under conditions specified at page 60, whether cropped or not.

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Of the total nominally-irrigable area in the district, viz., 204,303 acres, no less than 72 per cent., or 146,971 acres, is under the Kurnool canal; 3 per cent., or 5,475 acres, is under the Cumbum tank; 10 per cent., or 20,006 acres, is under imperial works falling under class IV; and 15 per cent., or 31,851 acres, under minor works. Of the total effective irrigation during these years, including second crop, only 8,036 acres, or 11 per cent., was under the Kurnool canal; 9,216 acres, or 12 per cent., was under the Cumbum tank; 23,046 acres, or 31 per cent., under class IV, imperial works; and 34,043 acres, or 46 per cent., under minor works. These figures show that, notwithstanding the large area commanded by the Kurnool canal, most of the irrigation is supplied at present from works falling under class IV, and among them prominently from minor works, less than 6 per cent. of the irrigable area under the canal being actually irrigated.

Turning to receipts, again, we find that class IV works yielded the largest revenue in the aggregate. The revenue from the Kurnool canal was Rs. 24,396 or only 11 per cent. of the entire irrigation revenue of the district, and that from the Cumbum tank, Rs. 38,064 or 18 per cent., while the receipts from class IV, imperial works, were Rs. 67,475 or 31 per cent., and from minor works, Rs. 88,243 or 40 per cent. Judging from the percentage of remissions to the gross demand under the several classes of works, as noted in the margin, the condition of the minor works under class IV appears to be very unsatisfactory, the result doubtless, in great measure, of long years of neglect, and the uncertainty of the climate.

Kurnool-Cuddapah canal	4·6
Cumbum tank	·8
Class IV, imperial works	4·3
Class IV, minor works	9·2

Class I—The Kurnool canal is but a part of a larger project originally designed, but subsequently given up owing to the costly and unremunerative character of the works. The original project "was intended to consist of a main irrigating and navigable canal and works with reservoirs for the storage of water, such main canal being divisible into three sections:—the first extending from Wallavapur to Sunkésala, and known as the Bellary section; the second extending from Sunkésala to Cuddapah, and known as the Sunkésala to Cuddapah section; and the third extending from Cuddapah to Kistnapatam, and known as the Nellore section." The present canal represents the second section. The project was started by the Madras Irrigation Canal Company (Limited) under a Government guarantee to pay 5 per cent. interest on a capital of one million sterling. Work was commenced in 1860, and the present canal from Sunkésala to Cuddapah was virtually finished by 1871. The capital outlay to the end of 1882-83 was Rs. 1,76,25,050, including indirect charges. Owing to the very little use made by the people of the irrigation afforded by the canal, the Company never realised any profit, and on the 31st December 1881 their liabilities stood at £2,107,152 as detailed below:

	£
Due for interest	936,710
Mortgage debt	426,095
Interest on do.	53,516
Due to Secretary of State for unpaid balance of loan of £600,000.	358,428
Interest on do.	283,000
Excess of advances over receipts on revenue account	49,403
Total ...	2,107,152

In view of the increasing loss entailed on them, Government purchased the canal and assumed charge of the works from 1st July 1882. The cost to Government, including direct payments and claims surrendered amounts approximately to £3,018,758 as detailed below:

Direct payments.	£	£
For the ordinary stock, at £106 for £100	1,059,646	
For the mortgage debt	319,571	
Compensation to company's officers for cessation of service	12,000	
		1,391,217

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Indirect payments, being claims surrendered.	£	£
Amount due for interest	936,710	
Unpaid balance of Secretary of State's loan of £600,000	358,428	
Interest on do.	283,000	
Excess of advances over receipts on revenue account.	49,403	
		1,627,541
Grand Total ...		3,018,758

The total length of the canal is 191 miles, of which about 140½ miles lie in the Kurnool district.

The canal was originally designed to carry 3,000 cubic feet of water per second, but it would be unsafe to admit that amount, and with water at the present full supply level the discharge at the head is about 1,500 cubic feet per second only. At the common allowance of 1·5 cubic feet for 100 acres, this would suffice for 100,000 acres only. The canal commands 284,206 acres of arable land in the district, and for nearly 52 per cent. of this area distributaries have been provided. Many have been given up however, and new ones are being designed to take the water to lands more suitable for irrigation than those previously brought under its influence. The canal has a course of over 50 miles in the Cuddapah district, so that it manifestly can never supply water to nearly 100,000 acres in Kurnool. The only supply of water which can be safely depended on for irrigation is the Tungabhadra river, although this supply is supplemented partially from the Gáléru in the Nandyál taluk, 93 miles from Sunkésala, the Kundér on the borders of, and the Pennér within, the Cuddapah district; but the duration and magnitude of the floods in these rivers are so uncertain that they are not of much importance. The supply from the Tungabhadra, however, is, in ordinary years, ample to meet all demands along the canal. During the famine of 1876-77 about 90,000 acres were irrigated under the canal, of which 75,100 lay in the Kurnool district. This is evidently about the maximum area protected by the canal.

The following statement shows the area irrigable under the canal and the average area irrigated during the three faslis 1293, 1295 and 1296 in taluk detail:

Taluk.	Arable area commanded.	Area for which distributaries are provided.	Average area irrigated.	Irrigation revenue.	Percentage of irrigable area irrigated.
	ACS.	ACS.	ACS.	RS.	
Rámallakót	2,946	2,607	1,550	5,555	52·6
Nandikótkur	102,141	64,487	2,630	8,932	2·6
Nandyál	58,602	49,550	1,129	3,893	1·9
Koilkuntla	62,632	26,824	214	750	·3
Sirvel	57,885	3,503	1,022	3,500	1·8
Waste lands irrigated free of charge	..	..	983	..	..
Tank irrigation	..	..	508	1,715	..
Total ..	284,206	146,971	8,036	24,395	2·8

In the Rámallakót taluk, the irrigable area lies in the Kurnool tract, and is well suited for irrigation for the most part. In the Nandikótkur taluk most of the land lies in the tract of that name, and is, for the most part, not well adapted for irrigation, much of it being poor, thin, gravelly soil with bad drainage. In the other three taluks most of the land lies in the Kundér tract, and is not well suited for irrigation, although attempts are being made, with some success under the concessions noted below, to extend the area irrigated in the taluk last noted in the table. In all the taluks, except Rámallakót and Koilkuntla, the canal supply might be easily extended to serve large areas of land well suited for irrigation, lying chiefly in the Atmakúr and Nallamala tracts, and also to several tanks, the supplies in which might be supplemented from the canal. This is being done to all the tanks at present commanded by the canal, which were also so supplied during the famine of 1876–1878 and double crops raised under them. The area commanded in Rámallakót is insufficient, and in Koilkuntla holds out no hope for extension. The canal can never, however, be expected to become remunerative owing to the heavy cost of construction and unfortunate alignment through a country where the soils are, for the most part, unsuited for irrigation; but the work, as a whole, is valuable from a protective point of view

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during seasons of local drought, as the Tungabhadra may be expected to furnish water for irrigation at such times.

The figures given in the margin show the area irrigated under, and the revenue derived from, the canal in the Kurnool district since its commencement. The canal was virtually finished in 1871-72, and since then the highest area irrigated (75,105 acres) was recorded in 1876-77,—a famine year with a rainfall of only 8·65 inches. In that year Government guaranteed to the company the water-rate on all lands irrigated from the canal, and this concession had probably some effect in extending the area under irrigation. In 1877-78, with an improvement in the rainfall (21·94 inches) and with the withdrawal of the concession granted in the preceding year, the area declined to 35,099 acres. In 1881-82, when both the monsoons partially failed and the rainfall was 20·17 inches, 11,920 acres were irrigated; and the large increase in 1884-85 to 12,138 acres was due to the scarcity of rain, which led to a greater demand for canal water. Excluding these four exceptional years, the average area irrigated in ten years from 1873-74 was 7,658 acres. In recent years there have been several breaches in the anicut at Sunkesala and in the canal itself, rendering the supply of water uncertain, and in more than one case causing failure at a precarious time. The increase in the last two years has been due to the grant of water free of charge to 1,229 acres in 1885-86 and to 1,720 acres in 1886-87, and the inclusion of 1,525 acres of second-crop tank irrigation in the latter year to the credit of the canal. For the purpose of forecast, it is only safe to take the maximum area (75,000 acres) ever irrigated by the canal as the irrigable area under it.

Year.	Area irrigated.	Revenue derived.
	ACRES.	RS.
1863-64	18	73
1864-65	192	684
1865-66	816	2,797
1866-67	1,396	8,079
1867-68	1,138	7,084
1868-69	1,078	6,001
1869-70	1,164	5,623
1870-71	1,516	2,700
1871-72	4,265	16,704
1872-73	5,934	27,204
1873-74	7,246	35,124
1874-75	7,294	27,351
1875-76	8,814	32,897
1876-77	75,105	1,87,590
1877-78	35,099	96,119
1878-79	8,352	38,056
1879-80	8,584	36,916
1880-81	6,719	21,878
1881-82	11,920	36,225
1882-83	5,463	17,107
1883-84	5,271	19,896
1884-85	12,138	37,664
1885-86	8,397	25,394
1886-87	10,441	27,898

The water-rates charged under the company's administration were somewhat heavy. Since the canal was taken over by Government the rates have been reduced and the rules for levying them revised and assimilated to those in force in the Godávari delta. The subjoined statement shows in a comparative view the rates last in force during the company's *régime* and the rates as now revised :—

Company's rates per acre.				Present rates per acre.			
Class.	Crops.	Irrigation by		Description of crop.	Irrigation by		
		Flow.	Lift.		Flow.	Lift.	
		RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	
Equal to two ordinary crops.	Sugar, betel, cocoanuts, saffron, plantains, and other fruits.	12 0 0	8 0 0	Single wet crop irrigated..	4 0 0	3 0 0	
				Second wet crop on irrigated land	3 0 0	2 4 0	
First-class crop ..	Rice field sown	6 0 0	4 0 0	If compounded for two crops for a term of not less than five years ..	6 0 0	4 8 0	
	Rice on bedded and bunded fields. First year..	3 0 0	2 0 0				
	Second do.	4 0 0	2 10 8				
	Third do.	5 0 0	3 2 0				
	Subsequent year.	6 0 0	4 0 0				
Second-class crops requiring frequent floodings.	Garden ragi, onions, chillies, sweet-potatoes, tobacco, maize, garden korra, indigo, and brinjals.	4 0 0	2 10 8	Sugarcane, betel gardens, and other garden produce remaining on the ground for the time of two crops	6 0 0	4 8 0	
				Single dry crop	1 0 0	0 12 0	
Third-class crops requiring occasional floodings.	Cholum, field ragi, field korra, field tobacco, field chillies, cotton, grain, and oil seeds.	2 5 4	1 0 0	Second dry crop on irrigated land (if not compounded)	1 0 0	0 12 0	
	Series of crops	6 0 0	4 0 0	Dry crop on land for which irrigation has never been supplied, or if supplied, discontinued	1 0 0	0 12 0	
		Per month.					
	First-class crop irrigated partly.	1 8 0	1 0 0				
	Second-class crop irrigated partly.	1 0 0	0 10 8	Garden crops (second-class under Madras Irrigation and Canal Company's rules)	3 0 0	2 4 0	
	Irrigation after 1st January.	1 0 0	0 10 8				

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As a further inducement to the extension of irrigation, a reduction of 50 per cent. for the first five and of 25 per cent. for the second five years on the normal rates is now allowed in the case of lands not irrigated during the preceding ten years, and, in order to attract capital, persons taking up blocks of 50 acres and upwards for irrigated cultivation are allowed water free of charge for five years and at half rates for another five years. These concessions are liberal, and will, it is hoped, gradually lead to the development of irrigated cultivation, but so far have only led to the taking up of few small blocks, not much, however, to the satisfaction of the block-holders.

Class III.—The only work in this class is the Cumbum tank situated, as its name implies, close to the town of that name. Parts of fifteen villages are irrigated from it; those marked with a star lie within the Cumbum tract, and the others do not furnish a large proportion of the irrigable area under this work. The total irrigable area is 6,221 acres according to the Collector's annual settlement report of fasli 1285 (1875-76); and in the irrigation accounts prepared for this work the irrigable area is entered as 5,475 acres, but this only represents the highest occupied area recorded during the years for which accounts have been prepared. In the abstract given below, this work and those included in class IV are grouped together tractwar. The principal works included in the table are:

Ravipad.*	Cumbum.*
Kagitalagudem.*	Nandimpalli.*
Avarangabad.*	Chinna Cumbum.*
Bestavarapupeta.*	Daraga.*
Hajaratgudem.*	Somavarapupeta.*
Papayapalli.*	Chintapalem.*
Lanjakota.	Kandalapuram.
Porumamillapalli.*	

Tank and other sources.	Village.	Tract.	Irrigable area.	Average area efficiently irrigated.	
				First crop.	Second crop.
Cumbum tank	(See above)	Cumbum ..	4,794	4,670	3,510
		Vémulakota ..	733	688	281
Oora tank	Bellagal ..	Bellagal ..	419	355	104
Nalla do.	Karivemula ..	Piápalle ..	261	244	73
Oora do.	Panem ..	North Erramala.	357	289	127
Kannikala tank	Kottapalli ..	Atmakúr ..	590	490	..
Virappa do.	Kurukunda ..	Do. ..	796	789	..
Ramasamudram tank	Velugodu ..	Do. ..	495	473	..
Peddiraju do.	Rudravaram ..	Nallamala ..	507	465	..
Ayyavarikodur do.	Ayyavarikodur ..	Kundér ..	349	341	93
Nagamma tank	Kanala ..	Do. ..	302	294	237
Pedda do.	Nandyál ..	Do. ..	532	526	495
Chinna do.	Do. ..	Do. ..	666	644	582
Timmanayanipeta tank	Timmanayánipeta.	Do. ..	796	769	514
Hanumádgundam pedda and chinna tank.	Yerragudi ..	Do. ..	429	409	178
Timmaraju tank	Owk	Owk	1,684	1,579	787
Erra do.	Mutyalapad ..	Chaygalmarri ..	870	353	35
Damara do.	Komaravol ..	Sagilér ..	269	263	203
Podidepu do.	Do. ..	Do. ..	331	276	50
Pedda do.	Reddicherla ..	Do. ..	233	228	184
Oora tank	Baddivid ..	Dupád ..	524	499	3
Pedda and Chinna tank	Markapuram ..	Do. ..	971	623	2
Chakkrami nala	Jaladurgam ..	South Erramala.	236	217	104
Kalwa bugga nala	Kalwa	North Erramala.	380	373	344
Mahanandi bugga	Timmapuram ..	Nallamala ..	194	193	167

The following is an abstract of the details of irrigation in each tract:

Tract.	Irrigable land.		Effective irrigation per cent. of occupied area.		Total revenue per acre of first crop irrigated.	Remissions of revenue.
	Area.	Occupied.	First crop.	Second crop.		
	acres.	per cent.	per cent.	per cent.	rs.	per cent.
Kurnool	500	92	90	35	5	11
Bellagal	2,284	69	83	21	5	23
Hosúr	204	68	68	3	8	51
Piápalle	6,706	69	75	11	5	37
South Erramala	1,804	83	94	30	4	15
North Erramala	1,616	91	95	44	6	5
Nannur	444	95	97	27	5	4
Nandikótkur	428	87	99	21	6	3
Atmakúr	5,617	82	97	0·3	3	5
Nallamala	7,510	90	98	5	4	3
Kundér	4,705	94	97	55	6	6
Owk	2,781	89	87	45	8	16
Chaygalmarri	1,374	83	100	23	4	0·2
Sagilér	3,456	87	100	40	4	3
Gundlakamma	3,531	90	100	19	4	1
Basinepalle	627	90	100	37	3	3
Cumbum	4,794	97	100	75	8	1
Vémulakota	2,109	85	98	16	5	1
Dupád	8,245	81	90	2	5	18

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These figures represent the averages of three years, faslis 1294 to 1296, and as the first year was an unfavorable one, they, in a great measure, show how much of the irrigable land is normally protected. Unfortunately the irrigable area, as shown in the irrigation accounts, has never been accurately determined but, as far as the figures go, the general character of the irrigation in each tract under works of these classes may be inferred from the percentage of the irrigable area that is occupied. This is very low in the Bellagal, Hosúr and Piápalle tracts, low also in the South Erramala, Atmakúr, Chaygalmarri and Dupád tracts; and does not amount to more than 90 per cent. of the irrigable area in the Nandikótkur, Nallamala, Owk, Sagilér, Gundlakamma, Basinepalle and Vémulakota tracts; whilst in the Cumbum tract alone is the proportion high. The character of the irrigation is still further exemplified by the next set of figures, which show the percentage of the occupied area which carries a single crop, *i.e.*, that which is normally irrigable. In this respect again the Piápalle and Hosúr tracts show up badly and the Bellagal tract not well, whilst of the other tracts named the Owk and Dupád tracts are the worst in this respect, whilst in the Kurnool tract also the area of first crop raised does not exceed 90 per cent. of the irrigable area. The area under irrigation in the Hosúr tract is of no importance and that in the Piápalle tract though considerable in area is but poorly protected. In the Bellagal tract the area is fair, and some portion of it tolerably protected; whilst in the Kurnool, Nannur, Nandikótkúr and Basinepalle tracts the area irrigable is small, and it is only in the Cumbum, Vémulakota, Gundlakamma, Nallamala, Owk and Atmakúr tracts that it is of importance or worthy of special note. The large proportion of second crop raised on the irrigable land in the Kundér (55 per cent.), North Erramala (44 per cent.), and South Erramala (30 per cent. of the occupied area) may however be noted; and is chiefly due, in the first-named tract, to the irrigation under the Nandyál and other tanks, and in the others to irrigation from perennial streams or ' buggas.'

The irrigation entered against the Vémulakota tract is nearly all carried on under the lower channels from the Cumbum tank; the poorer supply of water in this than in the Cumbum tract is shown pretty clearly both in the smaller proportion of the irrigable area occupied and of second crop raised. The value of the supply in the Cumbum tract is shown very clearly: 97 per cent. of the irrigable area is occupied; this all produces one crop and three-fourths of it two. The Basinepalle tract also includes a few acres also under the influence of the Cumbum tank. This work irrigates in all about 5,360 acres of first and 3,800 acres of second crop, and whilst producing a revenue of Rs. 38,355, only Rs. 291 are granted as remissions under it. In both the Sagilér and Gundlakamma tracts the occupied irrigable land (87 and 90 per cent., respectively, of the irrigable area) all produces one crop, and in the former 40 per cent. and in the latter 19 per cent. a second crop, and in neither does the necessity of giving remissions arise in ordinary years.

The comparatively small proportion of the irrigable area occupied in the Atmakúr tract has already been noted, but in it and in the adjoining Nallamala tract nearly all the occupied area is cultivated, though in neither is there much second crop raised, the tanks being generally very shallow with wide-spreading beds. In the Owk tract, on the other hand, the proportion of occupied land left uncultivated is much larger, and the uncertainty of the supply of even enough water for the production of one crop on some of the irrigable area is also indicated by the fact that the remissions granted amounted to 16 per cent. of the total revenue expected: on the other hand, the good supply of water in the great tank at Owk leads to a very large proportion of second crop being raised. Nearly all the irrigation in the Kundér tract occurs under the tanks specified in the table given above and the greater part of it is really canal irrigation. The irrigation in the Dupád tract is poor, but not so precarious as in the Piápalle tract, whilst the tract itself possesses the finest natural features for the development of a large system of tank irrigation.

Bringing all the available information together, the following figures result:

		ACRES.	
Irrigable area		133,735	
Occupied area		58,727	= 44 per cent. of irrigable area.
Area effectively irrigated	First crop ...	55,547	= 95 per cent. of occupied area.
	Second „ ...	13,537	= 23 „ „
Revenue demanded		Rs. 2,64,995	
Remissions total	„	23,291	= 9 per cent. of demand.

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But of the irrigable area referred to here, only a portion can be said to be fully protected against drought, and 75,000 acres are included as irrigable for the Kurnool canal, much of which though not shown as occupied is under cultivation for "dry" crops.

Protected and unprotected areas.—This is an appropriate place to consider this subject. It has been laid down that these areas shall be classed as those:—

(1) Secure against droughts of the severest description;
(2) Safe in ordinary seasons;
(3) Always precarious.

There is unhappily a considerable degree of vagueness in the meaning to be applied to the last two terms. As a matter of fact, the crop on 'dry' land must always be precarious, and yet it is safe in an average season. The degree to which, in an ordinary season, crops on dry land are precarious, depends very much on the character of the soil. This has been very fully referred to in the previous chapter. It must be remembered, however, that an ordinary season is very different from an average season, the variations in the amount and distribution of the rainfall being very great. It is, therefore, obvious that in this district, the whole of the crop of the dry land in occupation is always precarious, but the degree of risk varies from one extreme in the Piápalle, Erramala and Owk tracts to another in the Kundér tract. The tracts of the eastern section, excepting Cumbum, are nearly as precariously situated as those first named, but the rainfall there does not appear to be so uncertain, and the Bellagal, Hosúr, Kurnool, Nannur and Nandikótkur tracts are not far removed from, and the Atmakúr, Nallamala and Chaygalmarri tracts more nearly approach the Kundér in their comparative security. Summarising this: the western section of the district is generally in a precarious condition, some parts being worse off than others; the eastern section is not quite so badly off, and the Cumbum tract is practically protected; whilst the central section, though more favorably circumstanced, is also more or less precarious. There are, it is true, a few local exceptions to these generalisations, and they will be noted.

The protected area may be taken to include the maximum possible irrigable area under the Kurnool canal, a small area under a few spring channels, part of the area under the Cumbum tank, and some portion of the area irrigated from wells. The area under the work first mentioned has already been put down at 75,000 acres spread over the Kurnool, Nandikótkur, Atmakúr, Nallamala and Kundér tracts. Of these, the tract most favorably situated for such irrigation is the Nallamala, but, unfortunately, the alignment of the canal is such that but a small area under it can be served therein.

Nandyál, two tanks; Kanala; Ayyavarikodur; Bayapkodur; Chintakunta.

The tanks noted on the margin can be filled from the canal, and the area under them is included in that which it is possible for the canal to protect, and steps are being taken to extend the supply of canal water to other tanks; but it will not be possible to count on that supply serving as a protection for a larger area than that noted for reasons already given.

The great Cumbum tank, which has a normal irrigable area of 5,527 acres, cannot be regarded as safe against drought, as it depends on rivers fed by local rainfall. It is reported to have dried up in fasli 1270 (1860-61), and during fasli 1286 it received little or no supply. The marginally-noted figures show the areas irrigated by the tank in faslis 1286 to 1288 compared with the average of recent years. The small area of second crop cultivation in fasli 1286 and the drop in the first crop cultivation in fasli 1287 testifies to the untoward effect of the drought of the former year on the supply in the tank, while the increase in second-crop cultivation in the second year is equal evidence of the beneficial effect of the better local rainfall of that year. These fluctuations, coupled with the fact that the tank actually dried up in 1860-61, show that it cannot be treated as absolutely safe against drought, and that at the utmost 5,000 acres of first and second crop together may be said to be generally protected by this work.

	First crop. ACRES.	Second crop. ACRES.
Fasli 1286 (1876-77) ..	5,020	1,325
,, 1287 (1877-78) ..	3,674	2,720
,, 1288 (1878-79) ..	5,095	2,872
Average of recent years ..	5,359	3,862

There are many springs rising in the Erramala and Nallamala hills, the supply in which is generally permanent. The more important of these are noted in the following table, which shows the area of first and second crop irrigated under them in fasli 1296 (1886-87).

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Tract.	Village.	Area irrigated. First crop.	Second crop.	Tract.	Village.	Area irrigated. First crop.	Second crop.
		ACRES.	ACRES.			ACRES.	ACRES.
Kurnool ..	Tékur	59	32	Nannur ..	Nannur	48	29
					Rudravaram ..	86	55
Piápalle ..	Kalachatla ..	80	21		Total ..	134	84
	Kotakonda ..	57	25				
	Veldurti	60	25	Nallamala ..	Timmapuram (Mahanandi Bugga) ..	194	164
	Total ..	197	71		Gazulapalle ..	144	61
					Rudravaram ..	127	16
S. Erramala ..	Uppalapad ..	48	18		Total ..	465	241
	Zunutula	209	97				
	Gudipad	120	26	Chaygalmarri.	Alamur	80	58
	Jaladurgam ..	236	116		Chaygalmarri ..	128	69
	Madhavaram ..	85	35		Yadavada	100	28
	Total ..	698	292		Total ..	308	155
N. Erramala ..	Dhonu	145	23	Owk ..	Abdullapuram ..	95	68
	Yembayi	48	47		Tallamadugu ..	131	59
	Rangapuram ..	74	44		Korumanupalle ..	143	33
	Kalwa	380	324		Itikala	27	23
	Total ..	647	438		Cherlapalle ..	229	36
					Total ..	625	219
Nandikótkur ..	Brahmanapalle ..	68	25				
	Channakkapalle ..	26	26				
	Bijinivemula ..	78	43				
	Total ..	172	94				

Allowing for the inferior nature of the supply in several of the springs referred to and the general lowering of the supply during long droughts, it cannot be expected that more than 1,500 acres would be protected by this class of work; most of this lying in or around the Erramala hills from Zunutula on the south to Rudravaram on the north.

Well-irrigation.—The area that is protected in any way by irrigation from wells is also small. Full particulars regarding the wells found in different parts of the district are given in appendix ix.; but the more important of these are summarised in the following table:

Tract.	Wells. Total.	Wells. Abandoned or only occasionally used.	Wells. Average depth of.	Wells. Lifts in use.	Wells. Average area irrigated per lift.	Doruvus. Total.	Doruvus. Lifts used.	Doruvus. Average depth of.	Doruvus. Average area irrigated per lift.	Area irrigated under: Wells.	Doruvus.	Total.	Area of cultivated land for each acre irrigated from wells.
	NO.	NO.	FT.	NO.	ACS.	NO.	NO.	FT.	ACS.	ACS.	ACS.	ACS.	ACS.
Kurnool	86	41	22	79	1·72	66	74	14	4·07	136	301	437	295
Bellagal	596	155	21	612	2·53	107	125	18	2·66	1,547	333	1,880	113
Hosúr	114	15	25	118	2·69	..	..	..	..	317	..	317	164
Piápalle	726	173	23	773	1·84	14	15	18	2·07	1,424	31	1,455	115
South Erramala ..	194	33	24	169	3·26	..	..	..	..	551	..	551	74
North Erramala ..	122	35	22	139	1·32	37	32	9	3·12	183	100	283	297
Nannur	86	21	22	82	3·17	..	..	..	..	260	..	260	200
Nandikótkur	576	256	22	302	1·68	32	37	20	3·46	507	128	635	292
Atmakúr	92	47	22	40	2·4	..	..	..	..	96	..	96	466
Nallamala	246	157	23	93	2·18	..	..	..	..	203	..	203	403
Kundér	622	186	26	436	4·28	11	12	18	4·92	1,868	59	1,927	177
Owk	231	3	28	232	4·67	19	19	17	4·53	1,083	86	1,169	34
Chaygalmarri	410	43	25	367	4·84	..	..	..	..	1,776	..	1,776	36
Sagilér	1,052	690	25	361	1·45	62	16	16	3·31	524	53	577	90
Gundlakamma	943	405	28	538	3·44	163	111	15	3·58	1,849	397	2,246	28
Basinepalle	436	200	30	236	4·06	31	21	21	4·62	959	97	1,056	24
Cumbum	70	64	22	6	2·00	16	6	8	1·67	12	10	22	347
Vémulakota	83	18	28	76	4·72	56	72	29	3·87	359	279	638	44
Dupád	1,762	55	34	1,765	5·20	231	245	30	5·50	9,182	1,348	10,530	10
Total ..	8,447	2,607	..	6,424	..	845	785	..	..	22,836	3,222	26,058	68

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From this table it will be seen that these sources of supply only assist cultivation on about 26,000 acres, or on about one in every 70 acres under general cultivation; and that, if from this area that irrigated in the few tracts * where these sources of supply are well developed be deducted, the remaining area is very small,—8,600 acres,—whilst there are two other tracts, the Sagilér and South Erramala, where this form of irrigation is fairly well developed, and accounts for over 1,100 acres of this area. Deducting the area in these and that irrigated from wells in the Cumbum tract also, there only remain 7,500 acres in ten tracts, in which about 1,350,000 acres of land are annually cultivated, to which this form of assistance to cultivation extends; that is, to about one acre of every 180 under cultivation. These tracts include the whole of the western section proper in which the well irrigation is decidedly bad, and there is no prospect of improving it to any material extent; the North Erramala and Nannur tracts where the supply is generally poor, but not always so, and where also there is but little prospect of extending this form of irrigation; the Nandikótkur tract, which does not differ much from the two last-named tracts as to supply, but where the prospect for the future is worse; the Atmakúr and Nallamala tracts, wherein at first sight it appears that the supply ought to be good, but in which by general repute it is found that it is not so, and except in a few places, such as Atmakúr and Sirvel,† there is practically no prospect for the extension of well irrigation; and the Kundér, where the few wells used show a good supply, but where there is but little prospect of extending this form of irrigation.

Tract.	ACRES.
* Dupád	10,530
Basinepalle	1,056
Gundlakamma	2,246
Vemulakota	638
Owk	1,169
Chaygalmarri	1,776
Total ..	17,415

In a few of these last ten tracts, however, the doruvu irrigation is better: in the Kurnool tract it is fair; and in the Bellagal tract also, but might be further developed. Whilst in the Piápalle tract it is not so good, and in the Hosúr not found at all. In the three first tracts, the supply for these wells is derived from the Tungabhadra or the Hindri and its tributaries. The former is unfailing, and the best of the latter are also said to always contain a supply which is more fully utilised in times of drought than in ordinary seasons. In the North Erramala tract there are a few doruvus, but those that exist are capable of irrigating a fair area; and in the Nandikótkur tract also a few dependent on the Tungabhadra or the Kistna, but there the prospect of increasing their number is poor. In the Atmakúr and Nallamala tracts, doruvus are not found, nor from the rapid currents and the rocky beds of the streams does there appear to be much prospect of making them; whilst in the Kundér, some of the doruvus that do exist are not utilised, and in many places the ruins of old ones are to be noticed.

The well irrigation in the Cumbum tract is not worthy of notice, but some doruvus are to be found which might assist in the irrigation of some of the most unfavorably situated land under the Cumbum tank. In the South Erramala tract the supply of water in wells is good, and generally permanent where the wells are found, *i.e.*, in the bottoms of the valleys, but there are not wide openings for the extension of this form of irrigation, and the same may be said of the Owk tract which adjoins it to the east. In the only other tract west of the Nallamalas, where there is any fairly developed system of well irrigation, *i.e.*, Chaygalmarri, the supply is good and persistent, and might be further developed. East of the Nallamalas, the tract which shows the best supply of irrigation water in wells is that portion of the Sagilér valley which lies in the Cumbum taluk. In this and in the other tracts into which the taluk is divided, there exists a great number of unutilised wells, many of them going rapidly to ruin, and others from the nature of the soil and rocks which could be soon put in order under pressure of scarcity of rainfall. The reasons why they have dropped out of use are obscure. The taluk is closely populated, stock are abundant, the soil is well suited for irrigation and the water good with a fairly persistent supply. The number of wells in and out

† Here many of the existing wells are out of use owing to the supply from the canal having superseded them.

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of use in all the three tracts is noted in the margin. In the two other tracts of the taluk, the wells are more fully utilised than in the Sagilér tract, and this form of irrigation is very briskly carried on, and might be still further developed. In all three, irrigation from doruvus is good, but might be still more fully developed. The Vemulakota tract does not lend itself so favorably to irrigation, but the supply of water is good, and though the doruvus have a high lift, they irrigate a very fair area. The Dupád tract is the one in the district peculiar and noticeable for the large area under well and doruvu irrigation found in it. Not only is the number of these already great, but there appear to be good prospects in places for increasing the area protected in this way. Soil, drainage and water-supply are favorable, and above 5 acres is kept under crop in this tract for every lift in use. This, to a very great extent, explains the large population the tract maintains, and is one reason perhaps why the losses during the famine were so small.

Tract.	In use.	Not in use.
Sagilér	362	690
Gundlakamma	538	405
Basinepalle	236	200

Under the circumstances recorded, it is not possible to estimate the area that would be protected during a prolonged drought by irrigation of this nature at more than 20,000 acres, distributed in much the same way as the well-irrigation is in an average season, but chiefly confined to those tracts where the supply is best. Bringing all the sources of supply which can be relied on together, the result is as follows :

	ACRES.
Area protected by the Kurnool canal	75,000
Do. do. Cumbum tank	5,000
Do. do. spring channels	1,500
Do. do. wells and doruvu	20,000
Total ...	101,500

In an ordinary season the same area of crops under the Kurnool canal, about 9,000 acres under the Cumbum tank, about 10,000 acres under minor tanks and spring channels, and 25,000 acres under wells and doruvus may be said to be safe ; but the remainder of the crop area is always precarious, and under the Kurnool canal it can scarcely be expected that unless the pressure has been considerable for some time, the area noted will be irrigated at all.

CHAPTER VII.

AGRICULTURAL PRACTICES.

A general description of these is given below, with notes in those cases to which the general description will not apply. They can be best classified under the following divisions :—

Tillages,	Cropping and crops,
Manures and manuring,	Live-stock,

which will be taken up in detail separately. Live-stock, however, will be dealt with in a separate chapter. But, before proceeding further, it is interesting to note the following proverb showing the traditional position of the husbandman :

'Doralu yichina pálukanná dharani yichina pálu mélu.' — 'Better the gifts of the earth than the rewards of the powerful.'

Another may be quoted to show the reward of his labors :

'Madi dunni mundu padinavádu lédu,
Mági dunni chedipóyinavádu lédu.' — 'No farmer ever came to the front, but no good farmer ever became poverty stricken.'

His condition being that of 'neither poverty nor riches.' The unprofitableness of farming is, however, more fully expressed in the following proverb.

'Dunnévádu lekka chústé, nágali kúdá migaladú.' — 'If a ploughman count the cost,
His ploughshare even will be lost.'

The truth of these last two sayings must come home to every one who considers the value of the crops raised and the amount of labor involved in raising them. Another subject, however, first demands attention.

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Production.—The relative importance of the different taluks, as regards the extent of cultivation, is shown by the figures in the margin giving the proportion in which the total area of crop raised in the district (nearly 1,700,000 acres) is divided amongst them. It will be more fully referred to in another chapter; but, in considering the productive capacity of the country, it is necessary to remember the relative importance of the different parts of the season; this can be shown by the average area put under crop during the several months of the year, as shown in the margin, for the district as a whole. It must be remembered that the returns for July include all sowings made in the June previous for that particular season; that it is seldom that any sowings made after the middle of a month are included in the returns for that month; and that in Kurnool the entries for the last six months of the year represent to a great extent areas omitted in the earlier returns. It must be remarked that the figures given in no way indicate the importance of rainfall at different periods in the several parts of the district, as it would appear from them that the sowings are tolerably evenly distributed over four months. This is not really the case, for the sowings in different tracts are most widely different, as is shown in the following table:—

Pattikonda	.. 18·1	Nandikótkur	.. 13·8
Rámallakót	.. 16·3	Nandyál	.. 12·5
Cumbum	.. 9·2	Koilkuntla	.. 12·9
Márkápur	.. 7·4	Sirvel ..	.. 9·8

Month.	Per cent. of total area put under crop.	
	In the month.	To the month.
July	23·19	23·19
August	19·23	42·42
September	20·69	63·11
October	22·29	85·40
November	8·05	93·45
December to June	6·55	100·00

Tract.	Proportion of total area of crop put in during							Areas to which the figures refer.
	July.	August.	September.	October.	November.	December.	January to June.	
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.	acres.
Kurnool	23	18	12	24	21	1	1	122,756
Bellagal	49	19	10	8	11	2	1	199,567
Hosúr	21	10	23	23	14	8	1	52,686
Piápalle	72	13	6	5	2	1	1	146,751
South Erramala	57	21	12	5	4	1	..	38,844
North Erramala	46	19	12	16	6	1	..	81,135
Nannur	25	15	17	32	9	1	1	52,170
Nandikótkur	21	26	12	28	12	1	..	175,814
Atmakúr	21	29	10	24	15	1	..	41,142
Nallamala	21	25	21	23	8	2	..	74,684
Kundér	9	8	44	32	6	1	..	335,408
Owk	19	30	40	5	3	1	2	38,954
Chaygalmarri	27	15	33	18	5	2	..	58,170
Sagilér	34	30	9	8	8	6	5	46,377
Gundlakamma	42	29	10	7	4	4	4	54,299
Basinepalle	18*	55	13	7	4	2	1	17,804
Cumbum	28	36	14	7	4	6	5	8,077
Vemulakota	18	39	14	5	14	6	4	24,663
Dupád	22	35	13	10	12	5	3	99,886

* The low proportion shown for the tract up to July is due to errors corrected in August.

Looking at these figures, which are based on the average areas recorded for three years 1882-83, 1883-84 and 1885-86, it is still necessary to remember that the system of record is not perfect, and occasionally there appears to be but little crop put in during a month when, in reality, a considerable area has been sown. The danger of the averages being disturbed by this cause is, of course, greatest in the smaller tracts, but the general results may be accepted as pretty accurate. These show that the early rains are most fully utilised and most required in the Piápalle and South Erramala tracts, three-fourths of the crop being put down in the former before the middle of July, and in the latter before the middle of August. The other tracts, which most require the early rains, are the Bellagal and North Erramala, and those lying in the Cumbum taluk, in which over 60 per cent. of the crop is put down in June and July, and then the Vemulakota, Dupád and Atmakúr tracts, in which more than half is put in during the same period. The Nallamala tract is but little later than the Atmakúr,

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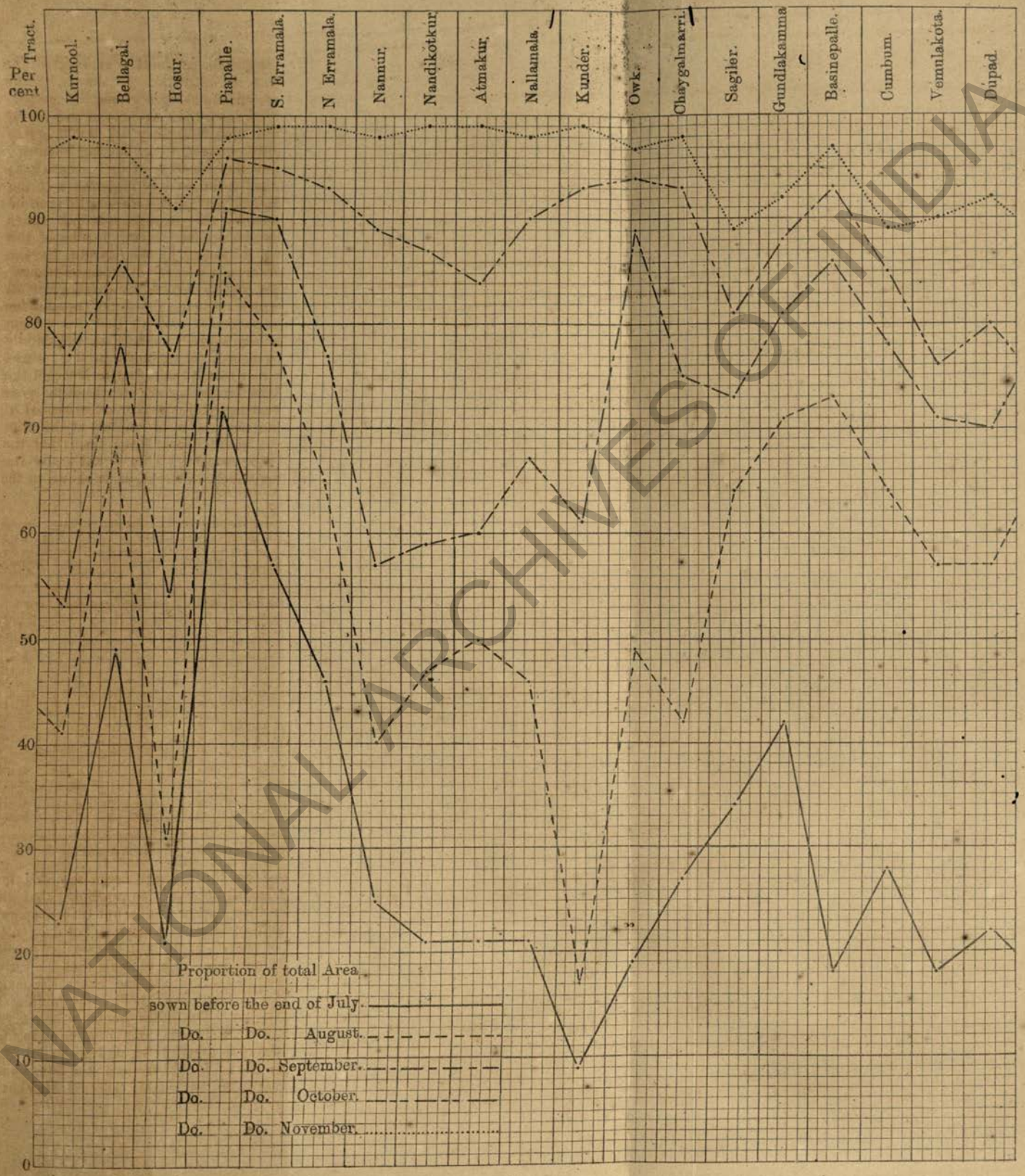
Diagram showing the Distribution of Cropping during the Season.



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Lithographed in Central Survey Office, Madras.
1889

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as is the remaining one lying at the western foot of the Nallamalas, but in all these the early sowings appear to take place towards the latter end of July rather than earlier. The parts in which the early sowings are of least importance are the Kundér and Hosúr tracts, but the September sowings bring up the area put in, in all parts of the district to more than half the crop area. Thus it is that by the middle of September in all parts of the district, except the Kurnool, Hosúr, Nannur, Nandikotkur, Atmakúr, Nallamala and Kunder tracts, not 30 per cent. of the crop remains to be sown, whilst by a month later nowhere in the district is that proportion found still without crop, and, except in the Kurnool, Hosúr and Vemulakota tracts, not more than 20 per cent. of the area has still to be sown. This may be shown more clearly in the following tabular form and in the diagram opposite :—

Proportion of area put in	In the tracts mentioned			
	Up to July.	Up to August.	Up to September.	Up to October.
Over 90 per cent.	....	....	Piápalle, South Erramala.	Piápalle, North Erramala, South Erramala, Nallamala, Kunder, Owk, Chaygalmarri, Basinepalle.
Do. 80 do. ..	....	Piápalle	Owk, Gundlakamma, Basinepalle.	Bellagal, Nannur, Nandikótkur, Atmakúr, Sagilér Gundlakamma, Cumbum, Dupád.
Do. 70 do. ..	Piápalle	South Erramala, Gundlakamma, Basinepalle.	Bellagal, North Erramala, Chaygalmarri, Sagilér, Cumbum, Vemulakota, Dupád.	Kurnool, Hosúr, Vémulakota.
Do. 60 do. ..	....	Bellagal, North Erramala, Sagilér, Cumbum.	Nallamala, Kundér, Atmakúr.	....
Do. 50 do. ..	South Erramala ..	Vemulakota, Dupád, Atmakúr.	Kurnool, Hosúr, Nannur, Nandikótkur.	....
Do. 40 do. ..	Bellagal, North Erramala, Gundlakamma.	Kurnool, Nannur, Nandikótkur, Nallamala, Owk, Chaygalmarri.	....	....
Do. 25 do. ..	Sagilér, Nannur, Chaygalmarri, Cumbum.	Hosúr	....	....
Under 25 do. ..	Kurnool, Hosúr, Nandikótkur, Atmakúr, Nallamala, Kundér, Owk, Basinepalle,* Vemulakota, Dupád.	Kunder (17 per cent.) ..	....	....

* The low proportion shown for the tract up to July is due to errors corrected in August.

In two of the three latest tracts by the middle of November nearly all the crop has been put in, as it is all over the rest of the district west of the Nallamalas, the Hosúr tract being the latest; but although in the eastern section, as has been shown, the greater portion of the crop is put in with the early rains, still the climate encourages the growth of late crops, and it will be noticed that from 3 to 11 per cent. of the area is put down under crop after November, and in the Sagilér, Gundlakamma, Cumbum and Vemulakota tracts a really appreciable area is put down after December. These figures, for all practical purposes, take no note of second crop, especially that on dry lands, which should go to swell the proportion of crops dependent on the later rains. In the tracts where the greatest average area of early crops are found, the soils are generally thin and poor, and will not carry a late crop to maturity.

The crops raised must next be considered. According to the average of the district returns, as a whole, 70 per cent. of the total cropped area is devoted to the growth of cereals, of which the most important are jonna (*Sorghum vulgare*) and korra (*Setaria Italica*) occupying, respectively, 37·6 and 14·2 per cent. of the total area. Pulses are returned as occupying over 7 per cent. of the area, the most important being horse-gram (*Dolichos uniflorus*), but everywhere the area under this class of crop is very much under-estimated. The food-grains, therefore, occupy about 77·25 per cent. of the crop area. Next in importance to these crops, which are not at all evenly distributed, comes cotton occupying 12·8 per cent., chiefly found in the Nandyál valley and parts of the western section of the district, and still less uniformly distributed; and then castor occupying 4 per cent. of the area, mostly found on the poorer soils; indigo on 3·6 per cent. of the better lands, where cotton also is grown, and other industrial crops, making up a total under this class 21·60 per cent. of the crop area scattered about

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the district. The remaining area, 1·15 per cent., is occupied by vegetables, condiments, spices, garden-produce, and trees.

The production of food-grains has already been alluded to, and information regarding the more important industrial crops is only available for cotton, indigo and sugarcane. The average area under these crops for the past 35 years is given in the margin. There has been a steady increase under all heads, except that cotton after showing a decline in the third decade, due to the inclusion of the famine years, has of late years almost recovered its normal area; total area under crop in the district being far less than in earlier years. The estimated outturn of clean cotton in recent years has been about $5\frac{1}{2}$ millions pounds, or about 25 lb. per acre, but there is grave doubt whether the official estimate is anywhere near the truth. Probably an outturn of from 40 to 50 lb. an acre of the full cotton crop is nearer the truth. The area under the crop does not vary much as long as the seasons are fairly favorable. The produce is cleaned in the villages and part of it worked up at home by the ryots into yarn from which strong coarse cloth is woven. The remainder of the produce finds its way to Adóni, Kurnool, Proddutur and Cuddapah for export.

Average for	Cotton.	Indigo.	Sugar-cane.
	ACS.	ACS.	ACS.
Ten years ending fasli 1271 (1861-62)	121,515	14,332	312
Ten years ending fasli 1281 (1871-72)	219,590	24,919	559
Ten years ending fasli 1291 (1881-82)	185,859	32,188	671
Five years ending fasli 1296 (1886-87)	215,356	65,170	716

Indigo shows a very remarkable increase, but the area put under this crop is the most irregular, and has in the last five years ranged from 21,000 to 103,000 acres. The average of recent years was nearly reached in 1870-71, when 62,155 acres were put under this crop. It is a crop which depends very much on the season, and is not put in if the rains are at all late, and the area put down also, of course, depends on prices. There is no information on record as to the annual yield of indigo. The régada land of the Kurnool, Nandikótkur and Kunder tracts, where indigo is largely grown, yield good crops, but a great deal of the area put under the crop is devoted to the growth of seed. For similar lands in the principal division of Cuddapah Mr. Banbury estimated the yield from the sale of the leaf at Rs. 32 per acre and probably a maund of 25 lb. per acre is a full average crop. The manufacture of the dye is taken up by the local merchants and such of the well-to-do and enterprising ryots who can afford the outlay for construction of the necessary vats, &c. The bulk of the ryots, who are too poor to incur this outlay, either sell the crop as it stands on the land to the indigo manufacturer, or hire a vat to manufacture the dye from their crop.

The area under sugarcane is insignificant, and the annual yield is insufficient to meet the local demand for jaggery and sugar, and imports are made from Anantapur and Cuddapah. The crop is raised almost solely in the Cumbum, North Erramala, Nallamala and Kunder tracts, under the irrigation afforded by the Cumbum tank, the Kalwa and Mahánandi spring channels, and the Nandyál tank. According to the returns a sugar-mill is kept for every 8 acres under cane near Cumbum, but elsewhere one only suffices for about 5 acres. Under the Cumbum tank the cane is raised on the system of rattooning which is not followed anywhere else in the Presidency, and is often kept down for several years on this system; blanks being filled up as they occur. The cost of production, the rate of yield, and the net profit per acre, as reported by the Collector for this district, are compared in the marginal table with the averages for the Presidency, estimated in 1883. But it is very doubtful whether the growth of this crop now does much more than just repay the ryot the cost of production if full charge for labor be made.

Estimate.	Cost of production.	Yield in		Net profit.
		Stripped cane.	Jaggery.	
	RS.	TONS.	CWTS.	RS.
Presidency ..	150	22½	45	100
Collector of Kurnool.	150-300	*837-669	37-33	50- 60

Tillages.—As already noted, tillage operations for any agricultural year are not commenced till after the Telugu New Year's Day, when, on a previously ascertained

* Whether stripped or unstripped cane, not stated. The figures appear to be entirely erroneous as to weight of cane produced.

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auspicious day, the ryot proceeds to his field and takes a few turns with his plough and returns. He then waits for rain to render tillage operations possible before entering seriously on the work. He will, however, usually during the month of May commence clearing his land of the stubble of the previous year's crop and of large growing weeds and bushes by hand and by working his scuffle (*guntaka*) across the land. On the lighter soils, and especially in the Piápalle tract, bushes and large weeds are plentiful enough, and the former are sufficiently strong to require the use of an adze-like tool called the *chettu-katti guddali* to root them out. The commonest of these shrubs is the *Réguchettu* (Zizyphus jujuba), and it is allowed to grow freely during the off season, as it furnishes an abundance of thorns for fence-making. These shrubs are cut down, collected into bundles with a two-pronged wooden fork (*ragóla*) tied together and drawn off to the place where they are required by the aid of a pair of cattle. The other shrubs commonly seen are *Jammi* (Prosopis spicigera), *Munga* (Crotalaria anthyloides), *Are* (Bauhinia racemosa), *Jilledu* (Calotropis gigantea). The ryot might easily eradicate these shrubs, were he to regularly root them out immediately after harvest, but he prefers to allow them to continue to grow during the dry season for the materials they furnish him for fencing and for fuel. It is, however, only on the light and gravelly soils that these shrubs are seen to any considerable extent; whilst on the régada there are practically none, and the ryots of villages where that soil prevails go considerable distances to fetch them to make fences.

The fences are only made round the stack-yards and on the sides of fields close to the village-sites where cattle trespass is a constant source of annoyance and loss. In villages where thorns are not to be had, dry-stone walls are very commonly put up to protect these fields from trespass. It is only under such circumstances or around gardens that fences are ever made, so that there are no obstacles to cultivation of this kind to be met with, nor are there usually any trees in the fields to injure crops by their shade. The lines of trees, forming road-side avenues, can usually be seen many miles away as the only break in the plains up to the horizon, it being only in a few localities that topes or orchards exist. The stubble is collected into heaps and a good deal of it is burnt on the land, instead of being carefully preserved and either made into manure or used as household fuel.

Although the general practice of the district is not to begin tillage till April or May, yet in parts of the western section of it work begins as soon after the early harvest as possible, say, about November or December, and goes on for some months. This practice is peculiar and confined to the western parts of the district, and does not extend into the Kunder tract. It is only practised on the régada and masabu soils, and this only when they are very foul with either *Garika* (Cynodon dactylon) or *Kundura Nattu* (Ischæmum pilosum). The good soils of the Kunder tract are so fully cultivated that these grasses take no hold there. Where these grasses have taken a strong hold of the land, the ryot has found that nothing less than very thorough tillage and long exposure will kill them. If the grasses occur in small patches, they are dug up with a pick-axe and left exposed till the heat and drought of the hot season has destroyed the life of every root. If, however, the grass has taken hold of a field, as it often will, if the land has been out of cultivation for some years, the process is different, and cattle-power is used with a special plough called the *pedda madaka*. The name of the implement is well bestowed; it is truly gigantic and often weighs fully a quarter of a ton. It is formed and shaped on the same lines as the ordinary native plough, only much larger; and a very large Babul trunk is required to form the body of the plough; the share being proportionately heavy. These ploughs are seldom owned except by wealthy ryots, and in working them it is common for several men to club together. They are drawn by four, five, or six pairs of cattle, those nearest the plough being the largest, and yoked to a yoke of enormous length, and the other pairs to shorter and shorter yokes till the front pair has only an ordinary one. The whole is attached to the plough with hide ropes, and when the team can be got to pull together the strain is enormous. It being impossible to work this plough in the stiffer soils till they are fairly dry, it follows that the surface has become thoroughly hardened long before this and the resistance to the passage of the *pedda madaka* is very great. The rate of progress is extremely slow, and as the furrows made are usually some distance apart, it is necessary for thorough work

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to cross the land again. The expense of the operation would be very great, if hire were paid for the cattle and drivers. As a matter of fact, the work is done when the cattle and drivers have no other call on their labor. In action it is practically forcing a wedge under a series of semi-detached blocks of soil and tearing them off from the subjacent land. A team of six pairs of cattle, six drivers and two ploughmen will get over about half an acre per diem; and as the land needs to be crossed again, it takes that force four days to break up an acre. The work of the *pedda madaka* is finally completed by the use of the *bara guntaka*, or a heavy drag harrow several times. Although it is well known to the ryots that this thorough breaking up has many beneficial effects on the land besides the eradication of the great curses the grasses named above, it does not appear that it is much practised with any other object. The expense and labor required are so great that so much is not done as might be undertaken with a more efficient implement.

Although the work above described as being performed with the aid of a specially made large plough is confined to the western section of the district, the practice of breaking up land at the latter end of one cultivating season for the crop to be sown in the succeeding year exists in other parts. In the central section of the district, it is chiefly confined to a very small proportion of the small area of irrigated land; but is also carried on on dry land with a plough worked by two or three pairs of cattle in much the same way as the *pedda madaka*, and here the *bara guntaka* is much used. In the eastern section a very considerable area of all sorts of land is broken up at the latter end of the season, in order to expose the soil to the ameliorating influences of weathering, but no special implement is found in use for the purpose, the ordinary native plough being used and its work followed up by the *bara guntaka*.

Before proceeding further in the description of the processes of tillage, it will be well to note the implements in use. They consist of ploughs, scuffles and grubbers; the latter being convertible into seed-drills by a simple arrangement; and besides those two sorts of bullock-hoes are in common use. In the following abstract statement information is given regarding different implements, their cost and the materials used in their construction:—

Implement.	Materials used.		Cost.	Remarks.
	Part.	Material.		
Ordinary plough.	*Naga* or pole ..	'Yepi' (*Hardwickia binata*), 'Yegi' (*Pterocarpus marsupium*), 'Tumma' (*Acacia Arabica*), 'Rela,' 'Agila,' 'Nemmi,' (*Dalbergia Oojeinensis*) 'Chandaram'.	About 3 to 12 annas.	The total cost of a plough varies from about 1 to 2 rupees. It is kept in repair along with the other implements by the village smith and carpenter on the regular payment of 25 to 35 seers of grain for every pair of cattle kept by a ryot, the ryot also furnishing any new materials. The parts requiring the most frequent replacement are the body and the share.
	Nágali or body.	'Tumma,' 'Billedu' (*Chloroxylon Sweetenii*) 'Chikreni' (*Albizzia Amara*)	2 to 4 annas.	A very small plough, costing less than one rupee, is used on wet land in all parts.
	Meditokka or handle.	Tumma or Chikreni ..	1 anna.	In the eastern section no large ploughs are in use. In the central section a larger-sized plough drawn by two or three pairs of cattle, costing about 2½ rupees is in use; and in the western section the true 'pedda madaka' costs from 5 to 12 rupees. In these large ploughs, the body lasts for three or four years and the share about two years.
	Karru or share.	Usually English, sometimes native wrought iron.	6 annas.	
	Katlu or Kedi or binding rings.	Do. do. ..	1 anna.	
Scuffle or 'Guntaka.'	*Dindu* or body.	'Yepi,' Tumma, Billedu ..	Re. 1.	The total cost of this implement varies from about 2½ to 3 rupees. The wear falls chiefly on the share (*paluku*), which lasts three or four years.
	'*Naga*,' shafts or poles.	'Chandra' (*Acacia Sundra*), Chikreni, 'Nemmi,' Billedu, Chigara, Chinanemi (*Anogeissus latifolia*).	4 annas.	The ordinary guntaka is about 3 feet wide in the share, but larger sizes are made, viz., 5 spans costing about Rs. 4, and 7 spans costing about Rs. 5. These last are only used on régada soils.
	Chekka or tines.	Tumma	2 annas.	There is also the pedda or bara guntaka used as a complement to the 'pedda madaka,' which costs from 5 to 10 rupees; this is also largely used in the eastern section of the district.
	Meditokka or handle.	As for the handle of the plough.	1 anna.	
	Paluku or share.	Native wrought iron preferred, English iron also used.	Re. 1.	

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Implement.	Materials used.		Cost.	Remarks.
	Part.	Material.		
Grubber and drill (three-rowed) or 'Gorru.'	*Dindu* or body.	Tumma, Yepi, Billedu, Rela.	4 annas.	The implement is usually turned out as a drill, with the seed hopper (*zadigam*, 8 annas) and bamboo tubes complete, and this costs about Rs. 5 or 6. The wearing parts are the coulters and shares which need to be replaced annually.
	Naga or shafts.	As in Guntaka	4 annas.	The large or six-rowed drill costs about 12 to 15 rupees, and is in use only where the soils are free.
	Chekkalu or tines.	Chikreni, Nemmi, China-nemi, Tumma.	3 annas.	Special drills are used also in some parts for both cotton and Bengal gram.
	Karulu or shares	Are made like the shares of a plough and fitted on each tine or coulter.	Rs. 1-8-0	
	Meditokka ..	As in Guntaka	1 anna.	
Bullock-hoe or 'Metla guntaka.'	*Dindu* or body.	As in Gorru	8 annas.	This implement costs from Rs. 1-8-0 to Rs. 2-8-0. The body lasts 10 to 20 years, the tines and shares require renewal annually.
	Naga or shafts..	Do. do.	4 annas.	In the eastern section this is called '*dhantalu or metla guntaka*,' and has only two broad shares instead of three.
	Meditokka or stilt.	Do. do.	1 anna.	On all stony soils in other sections a set of three miniature *guntakas* are used at once by way of bullock-hoe, and are then called dhantalu. Special bullock-hoes of similar make are used for cotton, chillies and tobacco; they only differ from the ordinary guntaka in the width of land they work at one time.
	Chekkalu or tines.	As in Guntaka	3 annas.	
	Kalukulu or *danthalu* or *billalu* or shares.	English or native iron ..	Re. 1.	

The plough does not differ in make in any way in particular from the ordinary native plough of Southern India. It is perhaps the implement least used by the ryot, and whilst it is seldom that a ryot can be found who does not own a guntaka and a gorru, those who have no ploughs are common enough. Working only one furrow, the ryot gets through about $\frac{3}{4}$ acre a-day with his plough, or more, when he purposely misses considerable spaces between each furrow.

The *guntaka* or scuffle is the most important implement the ryot possesses, and on it he chiefly depends in his tillage operations. This implement consists of a log of wood forming the body, to which the draught poles are attached at such an angle that they rest easily on the yoke of the cattle used to draw it, and a cross bar or share of iron fixed parallel to it, in such a position that it is forced under the soil as the implement is drawn over the land. This share is about 3 feet long in the commonest patterns, flat, with one side partially sharpened, but turned up at either end so as to allow of its being fitted into the wooden tines which carry it and are let into the body of the implement. The whole thing is, in fact, a huge scraper, or may be compared to a large hoe with the handle (in this case the draught poles) fixed at an angle of about 45° to the tines. A small rough piece of wood, also let into the body, serves as a handle and completes the implement. In work, the *guntaka* is drawn by a single pair of cattle driven by one man. In some cases, where the soil is at all hard or there are any impediments to the passage of the implement through the soil, it is weighted with a heavy stone, or more frequently the driver stands on the body to add to the effect. It is no uncommon thing to see a row of four or five of these implements, each with its driver skilfully balancing himself on the body, working together in a field. Besides being used to scrape or scuffle the surface, the *guntaka* serves the purposes of a harrow. It is made usually in two widths for use with the three-rowed or the six-rowed drill as the case may be. The smaller description will get over from 3 to 4 acres a-day and the large from 6 to 8; but the work it is able to do alone in preparing a seed-bed is little, although it is a most useful auxiliary implement.

The operations which this implement performs are called respectively:—

Búdidi páydam or the ordinary scuffling and harrowing before sowing; for this the smaller-sized implement is used;

Tsalla páydam or the harrowing given immediately after sowing; for this the large and small patterns are used according to the nature of the soil;

Paitsál páydam or the harrowing given about three days after sowing to encourage the sprouts of the seed.

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To show how essential the latter operation is considered, the following saying may be quoted :—

'Paitsálu léni payuru pagati ambali léni manishi.'

'A crop that is not harrowed to make it sprout, will be like a man compelled to go without his breakfast.'

The *gorru* or grubber and drill is a convertible instrument, second only, if second in importance to the *guntaka*. It is largely used as a grubber and almost always for sowing the seed, broad-cast sowing not being practised with the dry crops except in a few cases. The 'gorru' proper is a grubber, and when the seed-hopper (*zadigam*) and tubes are fixed on to it, it becomes a drill. It consists like the guntaka of a log forming the body, to which two carrying shafts are fixed as draught poles, but carries on its lower side three, four, or six miniature native ploughs, which form seed-coulters or tines. These tines are pierced to allow the passage of seed into the furrows they form. As a grubber, the *gorru* is a fairly effective implement, and is largely used in the preparation of all the lighter soils, but owing to the arrangement of the tines in one line, it can never at once operate throughout the whole area it passes over. As a drill, it cannot be safely placed in the hands of any but the most trustworthy of hired laborers, for the distribution of the seed lies with the worker, and it is difficult to modify in any way the depth at which the seed is to be placed, or to allow for irregularities in the surface, whilst a separate drill is required if it be desired to sow the seed at any distance apart different from the standard plan of these implements, viz., a foot, or multiple of a foot. As a matter of fact, perhaps there is no part of the world where sowing is more effectually carried out in a skilful manner than it is with these drills in the hands of a careful ryot. With the three-rowed drill about 3 to 4 acres may be sown in a day, and double that amount with the six-rowed. These are standard measures of area, and it used to be common to refer to a man holding as so many 'gorrus' of land, and the term is in parts still in use.

In working the 'gorru' as a drill, it is drawn by a pair of cattle driven by one man, who also guides the drill and lifts it at the head-land, and the sowing proper is as often as not performed by a woman,—usually a member of the ryots family,—who drops the seed from her hand into the *zadigam* carrying a supply in a cloth hanging round her waist. From the hopper the seed passes into the bamboo tubes, which support it, down through the seed-coulters as already described. The hopper and tubes are braced to the *gorru* by an ingenious arrangement of strings, which run through holes in the zadigam, and are tied to the gorru. When it is desired to sow a crop wider apart than usual, one or more of the holes in the hopper are blocked up. When it is desired to sow crops in alternate lines, as with *korra* and cotton or *arika* and *kandi*, it is usual to attach, a little distance behind the drill, a separate seed-tube (called the 'akkadi lottá') in charge of a separate sower; this follows in the tract left by one of the seed-coulters of the gorru, the seed-tube proper of which may or may not be blocked, and the seed is thus sown at regular intervals; in the case of cotton with korra, in every third row; kandi with arika, usually every sixth row; or castor with indigo, every twelfth row, the intervals being usually in some multiple of the number of rows sown by the drill in use. There is one drawback to the use of both the *guntaka* and the *gorru* common to all such implements, and that is, that it is apt to lead to only a shallow tilth being obtained. This is what actually usually happens in Kurnool, where as much as anywhere deep and thorough tillage is required. The sayings of the people show that the benefits of deep tillage are known, as in the following :—

'Thegina chénu thémavórchunu.'

'Land deeply ploughed retains moisture.'

or again

'Dukki koddi panta, buddhi koddi sukham.'

'As wisdom brings success, so deep tillage increases the produce.'

This is not the place to enter on controversial arguments as to the action and uses of the native ploughs as compared with those of European patterns, but at any rate, it may be noted that a few men in Kurnool have already taken to the use of the latter as a regular practice.

Wherever drill sowing is found, some sort of bullock-hoe will be found in use, and so it is here. Two sorts are in common use, one for the free soils where implements

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travel easily, another for the stony soils where obstructions are numerous The former is called the '*metla guntaka*,' and is made up of the body and shafts as in the guntaka with three broad shares, each set on a separate tine, to work between the rows of crops. These broadshares are simply flat pieces of iron fixed on to the wooden tines. Sometimes two such '*metla guntaka*' are worked together. The latter consists of a set of three miniature guntakas worked at the same time by a single pair of bullocks, but with three men to guide them. Each takes a separate row, and being disconnected, if it comes in contact with a land—fast stone, or other obstructions, its displacement from the line does not affect the others. These are called *danthalu* or rakes. Both these bullock-hoes are made for working between lines sown at the usual width apart (one foot); but for such crops as cotton, chillies, tobacco, special hoes, fashioned like the *guntaka*, are also kept in some places. All these implements are fairly effective and extremely simple in construction, but naturally rude and capable of much improvement; but the question of cost is so important with the ryot, that the prospect of better implements coming into use is small.

The ploughing performed towards the conclusion of one season as a preparation for the next year's cropping, goes by the special name of 'magha dukki' in contradistinction to the 'tsallakera dukki' performed almost immediately before the sowing. The terms correspond very closely to autumn and spring ploughing in English farming, and the value of the ploughing that leaves the soil long exposed to the sun and air is as fully recognised as at home; but little effort, however, is made to perform the 'magha dukki' to the extent to which it could be, if the people were more energetic. Moreover, of ploughing of any sort at all there is but little, for it is not possible that the ryot, keeping as he does from 15 to 40 acres of land according to its nature, under cultivation with a single pair of cattle, could thoroughly plough and till anything like that area with his implements. The smaller area named is usually land that has, for the most part, to be sown within two months after the first showers, and on the lighter soils. In most cases but little of the land is ploughed from year's end to year's end, and almost the whole of the tillage performed is done with the gorru and the guntaka.

On the lighter soils, a good deal of land is drilled after being worked twice with the latter implement without an attempt at ploughing. A great deal more is worked once or twice with the *guntaka*, once or twice with the *gorru* (as a grubber), once again with the *guntaka* and drilled. A smaller area, after being cleaned of weeds and stubble with the *guntaka*, is once ploughed, and then again worked with the *guntaka* and drilled. The *gorru* and plough are not worked till rain falls to moisten the soil, and then all is done in haste to get the crops put in whilst there is still moisture to sprout the seed. The small area of the lighter soils which is ploughed may be said to be part of that which is manured annually, and if it has been ploughed in one year, it will not be in the succeeding one. If land has carried castor in one year, it will only be worked with the guntaka in the next, as the castor crop is very thoroughly worked during its growth.

A short season, a small number of cattle, a soil which, in a favorable season, responds to the gentlest tickling, and the possession of implements, which do merely tickle the soil, lead the ryot of Kurnool to be satisfied with very little work in preparing the soil. The results are natural; the crops are always extremely uncertain.

On the régada and masabu soils the opening operation is the same as on other soils. As the area sown with early crops is limited and the pressure of work in the early months of the season is not so great, but, owing to the character of the soil, often for many days after rain there is no possibility of doing anything to it. A great deal of this land is also sown after being simply scraped with the *guntaka*, some after being worked with the *gorru*; but a fair proportion is ploughed, the furrows being at nearly a foot apart and the unstirred land between being moved by the *guntaka* some time later not long before sowing. The extent to which ordinary ploughs are used on the régada soils is greatest in the Kunder valley and least in the Kurnool tract and country to the west. On these soils the enormous areas kept under cultivation by the ryots for each pair of cattle they keep are prohibitive of any very thorough tillage, as much as from 30 to 40 acres being tilled per pair. It is often asserted by the ryots that, if you plough up the stiff régada deeply, it becomes so retentive of moisture that the jonna crop suffers in ordinary season. This character, so much to be desired as a guard against famine, might probably be regulated by proper arrange-

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ments for drainage. It is the universal custom to sow indigo and korra on these soils without any ploughing, and for the cotton but little is done, whilst the greater part of the jonna goes in without any ploughing beforehand, Bengal gram being alone habitually ploughed for.

Following the drill sowing the seed, the guntaka is worked invariably to do the work of a seed-harrow, and, as already mentioned, it is again worked three or four days later to give what may be called the 'sprout harrowing,' which is, I believe, carried out to guard against the effect of the surface soil 'setting,' and so preventing the free germination of the crop; it also, of course, checks the growth of weeds. Later on again, when the crops are about 30 days old, the bullock-hoes come into use, and are vigorously employed on all the drill-sown crops for intercultivation and for weeding. In the case of such crops as castor, the plough is used instead of, or in addition to, the bullock-hoes.

Viewed as a whole, the preparatory tillage is, in almost all cases, defective, and the crops are put into the land before it is in a proper condition to receive the seed. The sowing is admirably carried out, and great care is taken in after cultivation as far as it can be carried with bullock-power. The general result is a shallow tilth, and this, in a climate like that of Kurnool, renders all crops doubly precarious. The seasons are doubtful enough all over, but the effect of these variations is intensified by the system of tillage pursued by the ryot. Probably at present, unless he could invest in superior implements, the ryot does not possess a sufficient number of cattle to enable him to do much more regular ploughing during the open season. The difference in this respect of Kurnool from the southern Tamil districts is extreme, for in the latter the plough is the ryot's only implement, and is used most energetically; here the use of the plough is exceptional.

What has been said above applies to the unirrigated land that forms the backbone of the district; on the 'wet' land, the soil is either broken up 'dry' with a plough and tilled otherwise much in the same way as ordinary 'dry' land, though more thoroughly, or it is worked on the puddle system (so often described) of Southern India. The former is the common practice for the first-crop paddy sown, the latter for all second crop, and in a few cases for the first. 'Wet' land cultivation and the management of paddy are practically synonymous terms.

The extent of land kept under cultivation per pair of working cattle in different parts of the district is shown in the following abstract, which also gives the number and kind of drills and ploughs kept. It may be said that the number of guntakas kept will be double the number of drills, and of bullock-hoes about the same:—

Tract.	Area cultivated.		Average area of Pattas.	Area cultivated.			Proportion of	
	Wet.	Dry.		Per pair of cattle and he-buffaloes.	Per ordinary plough.	Per drill.	Large to small ploughs.	Six-rowed to three-rowed drills.
	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	ONE TO	ONE TO
Kurnool	561	128,224	21	29	39	40	9	5
Bellagal	1,619	211,159	14	23	28	39	16	21
Hosúr	117	51,839	16	32	44	57	18	29
Piápalle	2,469	164,806	14	18	20	30	70	89
South Erramala	1,226	39,809	10	15	18	22	13	8
North Erramala	1,070	82,853	11	18	20	21	12	4
Nannur	306	51,686	17	24	28	25	12	4
Nandikótkur	612	184,747	16	24	30	26	25	3
Atmakúr	3,749	40,992	12	17	21	19	1,065	8
Nallamala	4,593	77,306	10	19	21	21	191	2
Kunder	3,718	337,689	15	34	37	31	30	— ·7
Owk	2,308	37,354	7	21	24	23	8	1
Chaygalmarri	951	63,050	10	23	26	29	101	— ·5
Sagilér	2,911	49,273	5	17	12	18	2,214	13
Gundlakamma	3,154	59,645	7	17	17	20	..	66
Basinepalle	462	25,271	8	16	13	23	1,012	221
Cumbum	4,345	3,278	2	6	4	11	..	..
Vemulakota	1,466	26,916	7	19	15	23	..	..
Dupád	4,716	101,481	10	13	14	21	..	..

It is a peculiar thing that these figures show that all over the district, the average pattadar does not hold enough land to suffice for the working power of a single pair of bullocks. Or, in other words, the average pattadar only owns part of a pair of bullocks. The difference is extreme in some tracts, but least in the Piápalle, South

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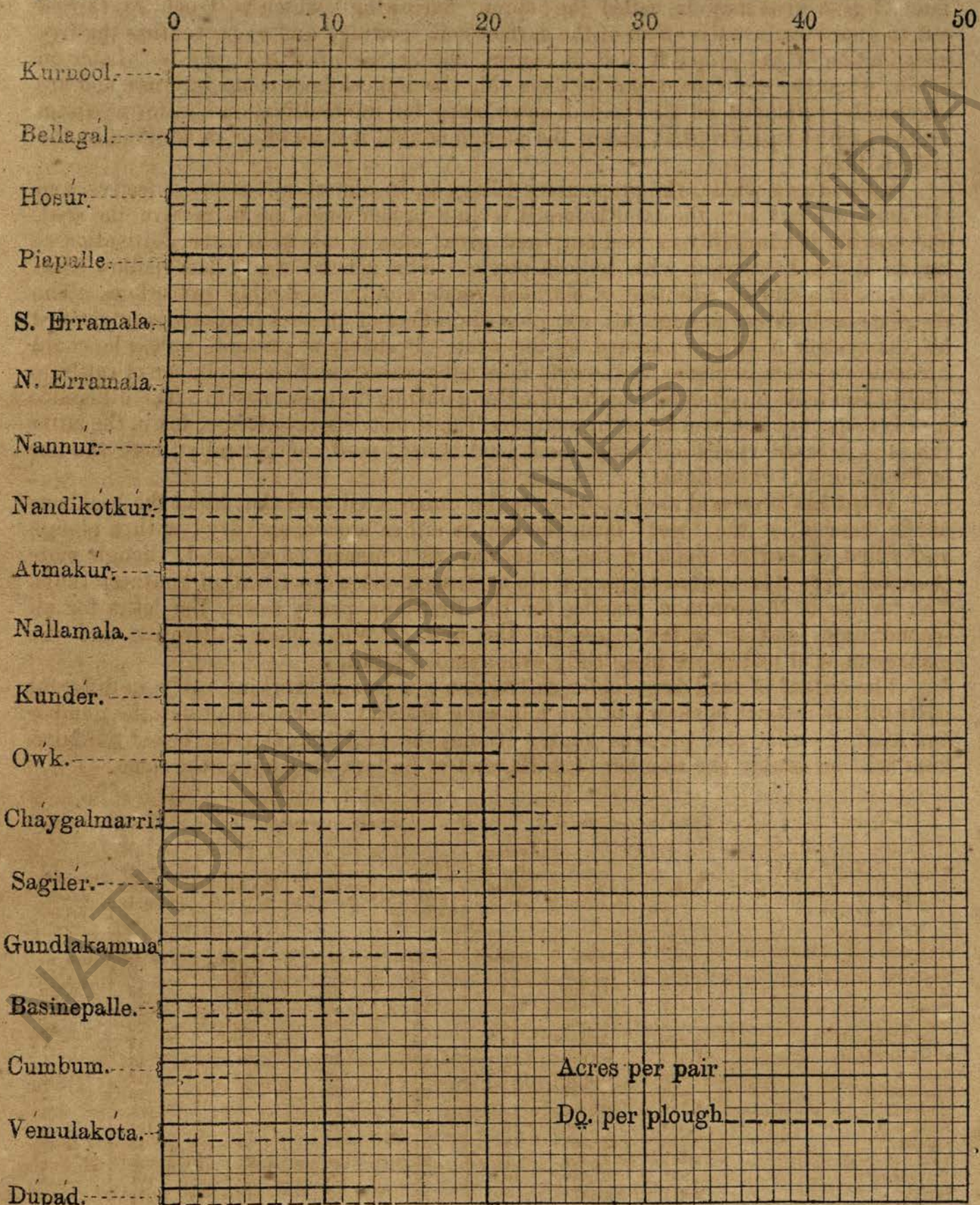
Tract.

Acres cultivated per pair of cattle and per plough



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Erramala, Atmakúr and Dupád tracts, which are cattle-breeding tracts. It is greatest in the remaining tracts of the eastern section, the Kundér, Owk, Chaygalmarri and Hosúr tracts. This reveals what an abject state of poverty the mass of the ryots must be sunk in.

The area of land which a pair of cattle keeps under cultivation varies, it will be noted, very greatly; in the Kunder it averages 34 acres, in the Piápalle 18, and in the Cumbum tract 6 only; but in the latter the large proportion of wet land, much, of course, carries two crops annually, accounts for the extremely low area. These variations depend chiefly on the nature of the prevailing soil, and here it may be noted that they indicate this better than the average assessment per acre even, although in a few cases the comparative accessibility of the villages and abundance or otherwise of the stock kept come in to slightly disturb the true indications of the figures. Thus,

(1) In the Kurnool, Hosúr, and Kunder tracts, where from 29 to 34 acres are cultivated per pair, the stiffest soils prevail, although in the first two the assessment per acre is lower than in several other tracts.

(2) In the Bellagal, Nannur, Nandikótknr, Owk and Chaygalmarri tracts, where 20 to 24 acres are cultivated by each pair, a great deal of stiff soil is to be found, intermixed with lighter soils, whilst the assessment in the second and last-named tracts is nearly double the rate in the first and 20 per cent. higher than in the other two.

(3) In the Piápalle, North and South Erramala, Atmakúr, and Nallamala tracts, and the whole of the eastern section, except the Cumbum tract, where the area cultivated per pair is from 13 to 19 acres, the generally prevailing soils are light, except in the Vemulakota tract, where the acreage is reduced by the fact that the ryots hold, and keep cattle for tilling lands under the Cumbum tank, and also make use of a number of doruvu wells; but the assessment per acre on dry land varies considerably, although these tracts show generally the lowest averages. In the Dupád, Erramala, Atmakúr and Nallamala tracts disturbing influences, in the shape of accessibility, the abundance of stock, and the number of wells in use for irrigation, come in to vitiate these deductions, in a measure, but not materially.

As every pair of cattle needs a driver, and works separate implements, these figures, in a measure, show the relative cost of cultivation on the different sorts of land. The greater the area a pair of cattle can keep under cultivation, the less will be the acreage expenses; this is especially the case in Kurnool, where hand labor is seldom resorted to for sowing or weeding.

Another point, which is brought out in these figures, is the fact that in all parts of the district west of the Nallamalas, the area under cultivation per plough is greater than that per pair of cattle; but in the eastern section, the latter is either about equal to, or less than, the former. This, in a measure, shows the extent to which the plough is used in cultivation, and when it is remembered that it would take three days to plough an acre fairly with the native plough, it is evident that in the short season available but a small proportion of the cultivated area can possibly be ploughed at all. More land is ploughed usually on the lighter than the stiffer soils, and more in the eastern than in any other section of the district; but everywhere the area kept under crop per plough is very high when compared with the areas similarly treated in the southern districts.

All these figures show also how confusing the general signification of the returns would be, if they were applied to administrative divisions in all cases, *e.g.*, the Cumbum tract and the rest of the taluk, the Piápalle and Hosúr tracts, the Kunder Nallamala and North Erramala tracts adjoin each other and lie within similar administrative areas; but in these important particulars bearing on agricultural practice differ widely from each other.

In both particulars to which allusion has been made the area shown as kept under cultivation is probably reduced below that which may possibly be tilled under the systems in vogue, by the fact that so much of the land is held in small holdings; and this necessitates, notwithstanding the common practice of co-operation amongst such tenants, a stronger force being kept than otherwise would be. In the case of some large holders on the régada soils of the Kunder valley, as much as 45 acres per pair of

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cattle is kept under crop. On the lighter soils this difference is not so marked, as the area tilled by the unit (a pair) is more nearly within the means of the average ryot.

The proportion of large to ordinary ploughs is, in some measure, rendered incorrectly, owing to the difficulty in defining a large plough. The definition adopted was a plough drawn by two or more yoke of oxen. This, of course, allows for wide variations, and explains one or two peculiarities. The portion of the district where the real *pedda madaka* is used is the western section on the stiffer soils. So it will be seen that in the Kurnool tract there is one large plough for nine ordinary, and in the Bellagal and Hosúr tracts for 16 and 18 respectively, the Nannur and Erramala tracts show one for 12 and 13, but in Piápalle there is one large for 70 ordinary ploughs, and the large plough used there is, comparatively speaking, a small one. A similar comparatively small style of large plough is found in the Kunder and adjoining tracts, but in the latter the use of the big plough is more frequently required than in the former, where nearly all the arable land is always under crop and seldom needs cleaning. In the northern parts of the Nandyál valley and along the foot of the Nallamalas, large ploughs are seldom used, and those that exist are usually drawn by two pairs of cattle only, whilst in the east of those hills one is practically never seen.

The number of acres to each drill kept is not so clear an indication of the nature of the soil; for not only are both the three and six-rowed drills used on the heavy soils, though the latter are not used on the light and stony soils, but there are special sorts of drills sometimes kept for certain crops in a few localities. The six-rowed drill is rarely found in the greater part of the eastern section of the district or in the Piápalli tract, the stony nature of the prevailing soils rendering it difficult to work the larger implement; whilst in the southern part of the Nandyál valley, as the chief crop, jonna is put in comparatively early, and the six-rowed drill is found in numbers exceeding by nearly one-half the three-rowed, but further north on the Erramalas, the three-rowed drill is much more commonly used, whilst in the Bellagal and Hosúr tracts, it becomes very common indeed.

Manures and Manuring.—The chief stand-by of the ryot in the way of manure is the droppings of his cattle and other refuse that goes to form his farm-yard manure; the latter is comparatively small in quantity, so that to arrive at any definite idea of the extent to which manuring can be carried on, it is necessary to consider the amount of stock kept in the different parts of the district, for in this they vary very greatly. It is absolutely useless to rely on the general statements of the ryots as to what they do, unless this can be checked by observation, and observation shows that the limit of manuring power is the number of live-stock maintained. It may be said that where the régada soils prevail, this number is small, and that in tracts nearer to or amongst the hills or in those made up of the lighter soils, it is often very considerable. The outturn per head is doubtless greater in the former than in the latter tracts, as there the cattle do not spend much time at pasture, and as there are but few kept, they are all tied up in the ryot's house, whilst in the hilly tracts cattle are often for long periods far away from the ryot's home, or if penned at night in the villages the cows and calves are placed in open yards, out of which but little manure is obtained. Besides this, there is another point to be considered, and that is, the extent to which cattle dung is used as fuel in different parts. The loss in this way is greater in the régada country than elsewhere, where fuel is more abundant, but fuel is easily obtainable in most parts of the district from the jungles and forests on the hill ranges, and the consumption of cattle dung is nowhere so great as in many other parts of the Presidency; the ryots, sending long distances for fuel, accumulate a stock of it during the dry weather, when carts can travel across the country in almost all directions and the cattle have little to do. Besides the manure obtained from his live-stock, the ryot accumulates the ashes, sweepings and other rubbish from his house, and, where the manufacture of indigo is carried on, sets considerable store by the refuse from the vats. Sheep-folding is also practised to a considerable extent. Mineral manures, other than ashes, he has none. The oil-cakes made are generally utilised as cattle-food, but the castor-seed, which if the oil is extracted locally, either goes to the manure heap or to the fire, is for the most part exported; green leaves and weeds are collected from the waste lands and jungles in some places and used as manure in 'puddled' paddy-lands, but otherwise no further sources are at present believed by the ryot to be open to him. Even the bats' dung in the Billa Surgam caves is

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collected and carried away by men from Cuddapah, but is not utilised in the district. For the irrigated lands near Nandyál, the whole country round is swept to find manure. Indigo vat refuse is brought from as far as 20 or 30 miles for use there, and prices varying from 8 annas to Rs. 5 a cart-load are paid for it. The ryot no doubt appreciates the value of such manures as are known to him, but the number he uses is limited, and above all he does not appear to understand the conservation of them. This is perhaps not surprising when it is remembered how modern is any knowledge of the subject.

Leaving out of consideration for the moment the gardens and wet land, the system on which the ryot distributes and applies his available manure appears to be very much what nature indicated to his ancestors as involving the least trouble. That is, he puts it on the land nearest to the place of accumulation. As the ryots all dwell in villages with their stock close around them, their manure always goes to the land around the village-sites. This land also gets manure to a considerable extent by the casual droppings of the stock in going to and from the fields, and is part of it also fertilised by being used as the general public latrine of the people. Whenever gardens or wet land exist, the available manure is reserved for them, and these lands consume by far the larger part of the possible supply over the greater part of the country. In practice what remains over for the 'dry' land is a small quantity, and is chiefly applied to such crops as tobacco, Bengal gram, indigo and chillies, though some goes also to the jonna. The system of application is not at all clear, except that land on which *éghili*, *i.e.*, restorative crops, have been raised in one year should not be manured in the next; and that the ryot endeavours to apply a little manure to all his good land that lies within easy reach once in four or five years, and supplements his meagre supply of farm-yard manure by hiring sheep and having them folded at night on his fields. The appreciation of the latter practice is shown in the following saying:—

'Gorre thokkina tsalunu.' — 'The tread of the sheep is enough.'

Or another version of the well known saying—'the foot of the sheep is gold.'

The general estimation of the importance of manuring is also shown in the following:—

'Lavu léni chénu léga léni ávu nishprayójanam,' — 'A field without manure is as useless as a cow without her calf,'

alluding to the fact that few cows in India will yield any milk unless their calf is before them. As a matter of fact, a great deal of land goes without manure, and manages to go on producing crops, poor it is true, but still enough in ordinary season to support its owner. Notwithstanding this traditional knowledge, however, there is but little attempt made, except on the better soils, to manure any of the more important cereals, except paddy; cotton receives no manure, and indigo but little. The supply available is, it is true, but limited, but it might be enlarged.

To sum up this survey of agricultural practices as far as it has gone, the practices of tillage are very defective, and manuring is only practised to an extremely limited degree.

Manures.—The chief of these is, as before noted, cattle dung. Before this goes on to the land it is composted with sweepings and rubbish, but the essential part is derived from the droppings of the cattle. These are collected at night in the sheds where cattle are tied up, and in the morning gathered up with such refuse fodder as is stained and of no further value, and thrown either into a pit, or on a heap just outside the village, if no nearer place of storage can be arranged by the ryot. If he could, the ryot would keep the manure pile at his door. With the cattle dung, &c., any household rubbish, ashes, sweepings, &c., is cast upon the heap, which gradually increases and accumulates from the beginning of one sowing season to the next. It lies exposed and open to the weather, washed by every fall of rain, dried by the scorching sun, and, finally, when the time comes for carting to the field, all, except the newest portions, is reduced to a fine powdry mass. The undecomposed portions are thrown back into the pit and form the nucleus for the next year's accumulation.

These heaps are thoroughly washed out during the rains, and frequently the washings contaminate the village water-supply; sometimes even a pit for manure is dug within a few yards of the well. What manure is accumulated during the rains must lose most of its nutrient value, and the whole loses many beneficial physical characters owing to its being reduced to powder. The system of accumulation and

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storage is a radically bad one, for pits even in which to store the manure are not dug in many places. It is dangerous to the public health and destructive of the value of the manure. The system is also defective, in that it makes no provision for the preservation of the urine of the stock. The liquid are well known to be more valuable than the solid excreta, but, for the most part, the urine soaks into the floors of the cattle sheds, and so helps to foul the soil on which the houses are built. This could be guarded against were any bedding supplied to the stock in order to absorb the liquids. If this were done, a much larger quantity of organic manure would be made available annually, and the ryot benefited thereby. Bedding is scarce, but by careful utilisation of waste straw, the collection of stubble, weeds, leaves and other rubbish suitable for the purpose, and in some cases by the use of dry earth for the purpose, the liquid excreta could be easily conserved and the cattle sheds rendered sweet and clean, which they are not at present.

In those parts of the district where breeding goes on to any considerable extent, it is customary to pen the cows and young stock in open yards at night, and when they are kept in this manner the dung gets trodden up, first into a paste and then in dry weather into a fine powder, and the outcome is a very small quantity of manure.

Besides the methods in which it is collected and stored, the feeding of the animals producing it has a great influence on the value of the manure obtained from cattle. It will be seen hereafter that, excepting the she-buffaloes and the working cattle, the live-stock of the ryot depend on natural grazing supplemented by a little straw. The two classes specified receive a certain quantity of special food in addition, but, as a whole, it cannot be supposed that the manure obtained is of very high nutrient value. The money value of the manure is difficult to arrive at, for but little cash changes hands. It may, however, be set at from 4 to 8 annas a cart-load, and this sufficiently indicates the estimation in which it is held.

To form a rough estimation of the amount of manure available, it is necessary to note the number of stock kept, calculating young animals at half. If, then, we allow a little more than one load of dry desiccated manure per head as the annual amount available, we shall get the following results :—Number of stock kept 523,139, giving 600,000 loads per annum ; total area under crop annually about 1,700,000 acres.—This gives 30 loads available for 17 acres once in five years, or less than two loads per acre. As, however, the gross amount available for ordinary dry land must be reduced by the amount taken annually for the irrigated and garden lands, the remainder really available for ordinary 'dry' lands may be determined somewhat as follows :—

	CART-LOADS.
Total amount available	600,000
Amount required for 30,000 acres manured annually	300,000
Remainder available for 1,650,000 acres occasionally manured ...	300,000

That is, about one cart-load is available per acre once in five years for most of the land. In other words, only 60,000 acres of the land is manured in a year from this source and 1,370,000 rarely, the latter being the land most remote from the villages.

Another great source of manure with the ryot are sheep and goats, which are folded at night on the land. This only goes on for about four or five months in the year. Fifteen hundred sheep are considered to be sufficient to manure an acre in a night. There are about 818,000 sheep and goats in the district. These will manure about 550 acres daily, or, say, 80,000 acres per annum. Of this, fully 20,000 acres are manured annually and the remaining 60,000 once in five or more years. Allowing that the land so manured by sheep is folded once in five years, about a million acres of land gets no manure at all from year's end to year's end, and 600,000 more or less frequently, and 50,000 acres annually. The ryots state that the effect of sheep-folding rarely lasts more than one year, whilst an application of the farm-yard manure shows its effect for three or four.

The extent to which manuring is possible in each of the tracts may, however, be more fully worked out and allowance be made for the conditions influencing the probable amount of manure available and the demands thereon in each. In reference to this point, it may be noted that the total amount of stock kept in proportion to the area under occupation and cultivation varies greatly in the different tracts. It is by far highest in the Dupád tract and in the rest of the eastern section of the district ; in

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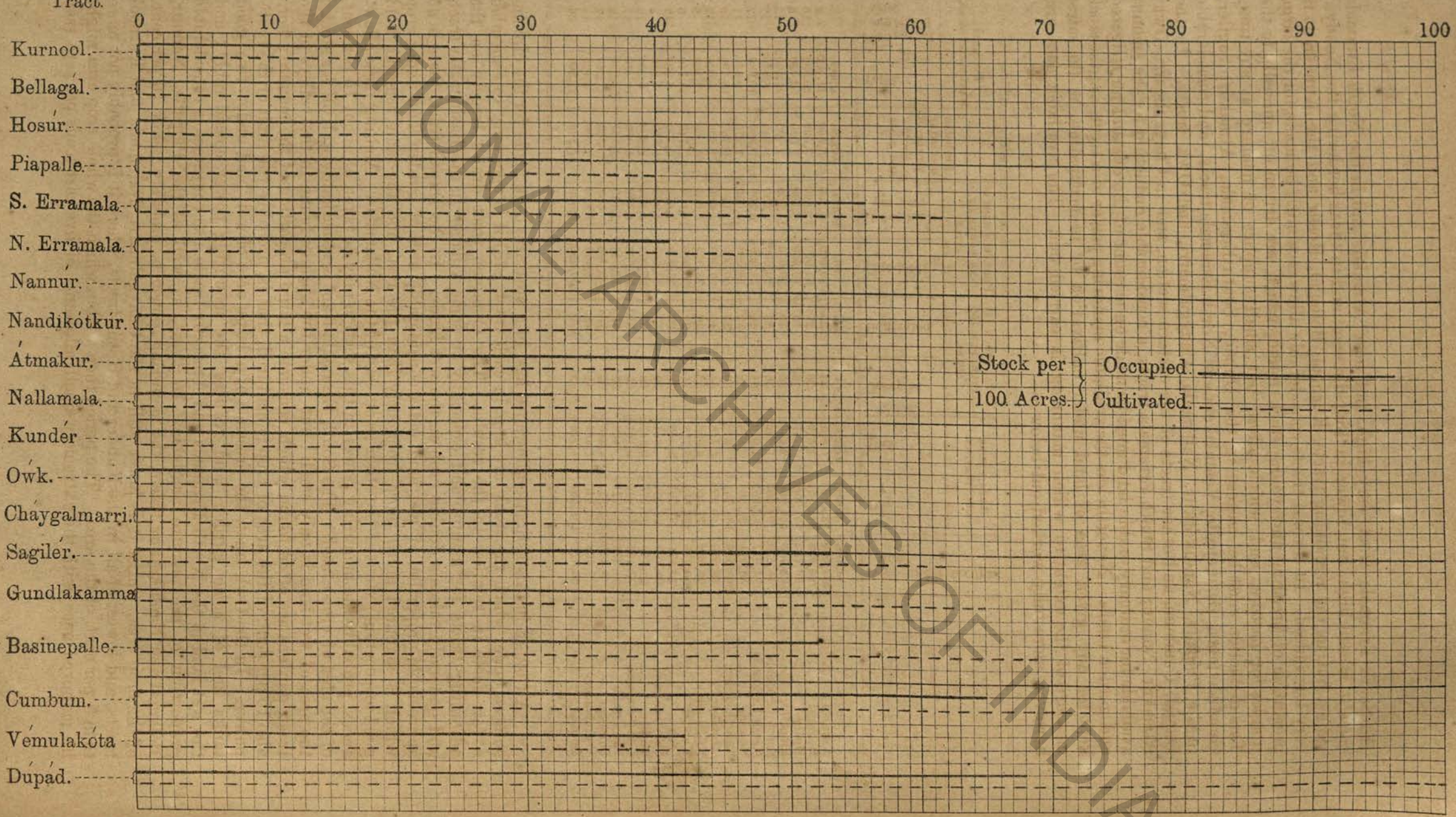
Number of Stock kept per 100 acres of occupied and Cultivated land.



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the South Erramala tract very high, and near Atmakúr and in the North Erramala tract it is still high, but lower in Piápalle tract and in those bordering the Nandyál valley, but in the remaining tracts, Kurnool, Bellagal, Hosúr and the Kunder, it is very low indeed. In several tracts considerable allowance must be made for the large proportion of breeding and young stock found, which are driven off annually to the jungles for pasture, and which afford but small supplies of manure at any time. This deduction must be largest in the Dupád, South Erramala, Atmakúr, Sagilér, Gundlakamma, Basinepalle, Vemulakota and North Erramala tracts, and considerable in the Piápalle, Nandikótkur, Nallamala, Chaygalmarri, and Owk tracts. In the Dupád, Cumbum, and other tracts of the eastern section, and in Chaygalmarri, Owk, Atmakúr, Nannur and South Erramala tracts, a considerable deduction for the amount available for ordinary arable land must be made on account of the demand for irrigated and garden lands. Nevertheless the available manuring power of a tract, *i.e.*, the stock kept for any given area of land under cultivation or in occupation, is the safest measure of the extent to which manuring is carried out. The available data are, however, more fully worked out below :—

Tract.	Area under occupation.	Area under cultivation.		Total stock (as cattle) per 100 acres.		Probable manuring power of cattle.		Probable manuring power of sheep and goats.	Estimated manuring power.	
		Dry.	Wet.	Occupied.	Cultivated.	Cart-loads.	At five loads per acre.		Total.	Per cent. of cultivated area.
	ACRES.	ACRES.	ACRES.	NO.	NO.	NO.	ACRES.	ACRES.	ACRES.	
Kurnool	134,589	128,224	561	24	25	30,000	6,000	5,800	11,800	9
Bellagal	226,994	211,159	1,619	26	27	64,000	12,800	7,590	20,390	10
Hosúr	56,713	51,839	117	16	18	10,500	2,100	1,090	3,190	6
Piápalle	189,748	164,806	2,469	35	40	70,000	14,000	7,490	21,490	13
South Erramala ..	45,270	39,809	1,226	56	62	20,000	4,000	2,840	6,840	17
North Erramala ..	94,617	82,853	1,070	41	46	31,000	6,200	3,880	10,080	12
Nannur	56,011	51,686	306	29	32	18,000	3,600	1,970	5,570	11
Nandikótkur.. ..	203,516	184,747	612	30	33	60,000	12,000	6,750	18,750	10
Atmakúr	49,689	40,992	3,749	44	49	20,000	4,000	1,520	5,520	12
Nallamala	93,908	77,306	4,593	32	36	25,000	5,000	2,360	7,360	9
Kunder	350,215	337,689	3,718	21	22	70,000	14,000	7,140	21,140	6
Owk	43,474	37,354	2,308	36	39	13,000	2,600	2,330	4,930	12
Chaygalmarri ..	69,395	63,050	951	29	32	20,000	4,000	1,850	5,850	9
Sagilér	60,749	49,273	2,911	53	62	27,000	5,400	2,800	8,200	16
Gundlakamma ..	77,403	59,645	3,154	53	65	32,000	6,400	4,070	10,470	17
Basinepalle	34,326	25,271	462	52	69	12,000	2,400	2,500	4,900	19
Cumbum	8,496	3,278	4,345	65	73	3,000	600	300	900	12
Vemulakota ..	32,608	26,916	1,466	42	48	9,000	1,800	2,320	4,120	15
Dupád	155,976	101,481	4,716	68	100	50,000	10,000	17,200	27,200	26

Although in this estimate allowance has, in a measure, been made for the circumstances under which the stock are kept in each tract, still it is necessary to remember a few facts in relation to the results. The Cumbum tract draws largely on the adjoining tracts for manure and especially on some villages in the Basinepalle tract, and generally raises a double crop on the wet lands. In the Dupád tract, there is an appreciable proportion of wet land and a considerable area of garden land under crop which is manured much more frequently than the rest, and the same remarks hold good to a certain extent of the other tracts east of the Nallamalas. Making these allowances, probably the manuring power in this section may be taken at about 15 per cent, of the area of crop raised. The South Erramala tract is remarkably well off for stock ; the area of wet land is only small ; but under the springs found in the valleys of the tract, gardens are often found which consume a large proportion of the manure ; here also 15 per cent. of the area of crop is manured, that is, probably the limit of the ryot's power. In the Owk tract, the presence of a large area of wet land under two good tanks and of some garden land reduces the manuring power considerably ; and the wet land in the North Erramala and Atmakúr tracts also consumes a considerable proportion of the manure available. In these, as well as the Piápalle, Nannur, Bellagal and Nandikótkur tracts, the manuring power is probably below 10 per cent. of the crop area, whilst it is lower still in the Chaygalmarri, Nallamala and Kurnool tracts, and lowest of all in the Kunder and Hosúr tracts, where it is probably not more than 5 per cent. of the area. The period then within which the whole crop area might be manured once with the extremely small allowance of five cart-loads per acre (say

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1½ tons) varies from about 7 to 20 years. As a matter of fact, a great deal of land is never manured at all, and the greater part only very lightly at long intervals. What lies near the villages is manured pretty regularly, as is also the wet land and the land used for raising garden crops.

The manure that can be obtained from sheep and goats is not nearly as fully utilised in Kurnool as it is in many other parts of the Presidency; such as the southern districts, where a system of close folding is usually adopted. The sheep and goats are at times driven into and kept at night on the arable land, and their services as manuring agents are recognised, but the period during which this is done is short, and the flocks are, during long periods of the year, driven off to distant hills and grazing grounds, whilst at all times the manure obtained from them must be of poor quality as they depend entirely on what they can pick up on the waste land and stubbles for nourishment. The value of sheep-folding may be estimated from what it costs the ryot. He pays the shepherd little or nothing, but feeds him and his dogs during such period as the sheep are penned on the land. One shepherd may be allowed to every 150 sheep, and the cost of feeding him and giving him the usual allowance of betel-nut and tobacco for ten days will amount to about one rupee. Although, therefore, this form of manuring goes on over a considerable area, the total value of it is small.

The refuse from indigo vats is utilised wherever it is obtainable, and by preference it is used on irrigated land, as it is more easily dealt with under such conditions as are met with on them. This refuse is, however, very carelessly preserved, as it is usually thrown out of the vat into a loose heap along side and often remains there gradually drying up for several months, instead of being regularly composted and so reduced to a favorable condition for application to the land. The consequence is that much of the leaf is entirely lost, and the remaining stem becomes so dry and hard that it takes a long time to decompose after it is applied to the land. It is for this reason that the refuse is most generally applied to 'wet' land. This source of manure is only available to any considerable degree in the central section of the district and near Kurnool, but might be much more fully developed than it is. The money value of this manure is about Re. 1 to Rs. 1–8–0 per cart-load, though in places the price is much higher, *e.g.*, near Nandyál.

As in many other parts of Southern India, the leaves of trees and shrubs are utilised as a 'green manure' in the puddled paddy fields. The chief of these shrubs are—

Kánuga (Pongamia glabra).	*Vempali* (Tephrosia purpurea).
Tangédu (Cassia auriculata).	*Jillédu* (Calotropis gigantea).
Réla (Cathartocarpus fistula).	*Thondra* (Terminalia glabra).

But almost all green plants of the field, waste, or forest are utilised, if they are free from thorns. They are applied in the same manner as leaves are in all other parts of the Presidency. The ryots owning lands under the few large tanks often go long distances to collect leaves, but again in many other parts the ordinary waste land produces many of the shrubs named, and so furnishes the necessary supply. At Cumbum, leaves are regularly brought to market and sold for manure, but in no other place is there any dealing in this manure.

The use of alluvial earth has only been noted at one place * in the district, and of other manures there are none in use. Much more might be made of the farm-yard manure heap by judicious composting and the preservation or collection of rubbish, weeds, leaves, &c. Limestone is abundant and fuel not scarce. Bones are utterly wasted. Night-soil might easily be collected and utilised, and so one of the foulest of the habits of the buffaloes put a stop to, and a most useful supply of manure made available. It is utilised around Kurnool perhaps more extensively than near any other town in Southern India, but generally it is utterly wasted. In fact, there is ample reserve manuring power in the country if only it can be developed.

The application of manure usually begins about Rohini; it is carted to the field and deposited there in small heaps, and lies until a shower of rain falls, when it is spread and worked in with the *gorru* or the plough. If the land be 'wet,' worked on the puddle system, it may or may not be watered and ploughed before the manure is applied according to the nature of the manure used, but the latter is always worked in by the plough, assisted, when leaves, &c., are used, by the feet of the people who spread them.

* At and near Kalwa.

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Crops.—The following is a list of the more important crops raised in the district, with a note of the chief conditions influencing their distribution :—

Name.		Where sown.
Common.	Botanical.	
Cereals.		
The great millet or *jonna* (yellow).	Sorghum vulgare	On the lighter soils generally as an early crop, and on stiffer soils in the middle season.
Do. do. (white).	Do. ...	On the stiffer soils as a late crop.
Italian millet or *korra* ...	Setaria Italica	On the mixed and stiff soils in the middle season.
Koda millet or *arika* ..	Paspalum scrobiculatum ...	On the poorer soils early.
Spiked or bulrush millet or *sazza*	Pencillaria spicata (Penisetum typhoideum)	On the mixed soils and in the eastern section as an early garden crop alone.
Indian millet or *variga* ...	Panicum mileaceum ...	In the eastern section as a late crop.
Wheat or *godhuma* ...	Triticum vulgare	On the black-cotton soils very late.
Do. or *yeva*	Triticum spelta	Under irrigation ; very little.
Paddy	Oryza sativa	Under irrigation and dry.
Ragi	Eleusine corocana	Mostly under irrigation from wells, also in eastern section on good land, dry.
Pulses.		
Red gram or *kandi* ...	Cajanus Indicus	Everywhere mixed with early cereals.
Green gram or *pesara* ...	Phaseolus mungo	Everywhere mixed with early cereals ; also with late jonna.
Alatsandalu	Vigna catiang (Dolichos sinensis).	With early jonna on poor soils in the western section in a small quantity only generally. The last is the least common.
Anumu	Dolichos lablab (Lablab vulgaris).	
Mittikelu	Phaseolus aconitifolius (Phaseolus trilobus).	
Black gram or *minumu* ...	Phaseolus Roxburghii (Phaseolus mungo) var. radiatus.	A very little on medium soils by itself.
Bengal gram or *senaga* ...	Cicer arietinum	On the black-cotton soils generally.
Horse-gram or *Ulawa* ...	Dolichos uniflorus (D. biflorus).	On the lighter soils by itself largely and mixed with cotton on stiff soils.
Industrial Crops.		
Indigo	Indigofera tinctoria ...	On mixed and stiff soils generally.
Castor	Ricinus communis, var. ...	On poorer soils alone ; on stiff with indigo.
Cotton	Gossypium herbaceum ...	Chiefly alone on the black-cotton soils ; also a little mixed with jonna on light, and with korra on mixed soils.
Roselle (*gogu*)	Hibiscus cannabinus and subdariffa.	Mixed with many cereals on all soils.
Gingelly	Sesamum Orientale ...	Mixed with korra and jonna on light and mixed soils early.
Safflower (*kusuma*) ...	Carthamus tinctorius ...	On black soils with wheat and as a fence.
Linseed	Linum usitatissimum ...	On black soils as a late crop.
Tobacco	Nicotiana tabacum ...	On mixed and heavy soils chiefly in the North Erramala and Nannur and Nandikótkur tracts.
Sugar-cane	Saccharum officinarum ...	Under irrigation on the best land in a few places.

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Name.		Where sown.
Common.	Botanical.	
Miscellaneous Crops.		
Chillies	Capsicum annuum or frutescens.	On mixed soils largely near Kurnool and everywhere in gardens.
Omum or *Vamu*	Ptychotis ajowan or Carum copticum.	On mixed and stiff soils in Nandikótkur tract chiefly.
Turmeric	Curcuma longa	Under irrigation as sugar-cane, often mixed with maize.

Besides the above, maize (Zea Mays) is grown in gardens; a small millet called *nerigalu* (Panicum colonum) is sown with arika in a few places; onions, garlic, brinjals, sweet potatoes, and plantains are all raised, besides the common fruit-trees, especially tamarinds. Most of the more important cereals are found in several varieties, sometimes adapted to sowing in particular seasons, such as *chitta jonna*, or noted for peculiar characters, such as *cheruku patsa jonna*, or sweet Sorghum. In korra, sazza, and ragi, there are distinct 'garden' varieties for raising under occasional irrigation. Paddy has numerous sorts for dry and wet, or early and late sowings, respectively. Of castor, at least two easily-distinguished varieties exist, but the red-stemmed sort is the common one. Of cotton, there are two distinct sorts,—one called 'white cotton,' a low growing, erect, single-stemmed, branchless plant, sown on the black soils, but it even has different varieties; and another, called 'red cotton' from the color of the stem, which is of larger habit and branched a good deal, and is raised on the light soils. Gogu appears in two sorts,—the common green-stemmed *H. Cannabinus*, and the 'erra gogu' or red-stemmed *H. subdariffa*. The distribution of these crops is shown more fully in the table below; but here it need only be noted that paddy is chiefly confined to the irrigable land, except for the small area under 'dry' paddy. The pulses nearly all come in with certain of the cereals, as do gogu and gingelly; safflower and linseed occupy very small areas. Tobacco is only of importance on a small area, and sugar-cane scarcely anywhere, except under the Cumbum and Nandyál tanks and the Kalwa 'bugga-nála,' or perennial stream.

Distribution of crops.—The following abstract shows how the cropping varies in different parts of the district, the per-centage under the chief crops being noted:—

Tract.	Area referred to in statistics.	Wheat.	Paddy.		Jonna.		Korra.	Arika.	Sazza.	Ragi.	Other cereals.	Red gram.
			Irrigated.	Unirrigated.	Early.	Late.						
	ACRES.											
Kurnool	125,389	0·3	1·3	..	11·7	34·7	17·3	0·9	2·2	..	..	0·7
Bellagal	200,131	1·0	1·0	0·2	26·2	15·7	21·6	2·4	8·3	..	..	1·4
Hosur	52,061	0·1	0·1	..	19·9	34·3	19·6	..	0·5	..	..	1·3
Piápalle	141,650	..	2·1	0·5	45·7	0·8	11·1	2·3	3·9	0·1	..	3·3
South Erramala	39,885	..	2·2	1·3	47·7	..	24·7	1·0	0·8	0·3	..	1·5
North Erramala	79,981	0·2	1·1	0·3	36·6	7·6	21·3	2·4	0·3	0·2	0·4	1·4
Nannur	52,004	0·7	1·1	0·1	16·8	27·2	14·2	1·8	0·1	..	..	2·7
Nandikótkur	193,544	0·2	1·1	0·4	12·5	26·7	19·6	7·3	..	..	..	1·1
Atmakúr	41,822	..	9·7	1·0	7·1	23·5	11·8	21·7	0·3	0·2	0·1	1·0
Nallamala	75,509	..	8·8	4·9	0·4	14·5	11·3	31·5	0·6	0·7	..	0·2
Kundér	340,807	0·1	1·1	0·7	0·3	41·1	4·1	4·9	..	0·2	0·1	..
Owk	40,077	0·6	4·4	..	7·7	12·7	26·3	18·4	0·4	0·8	..	0·2
Chaygalmarri	58,205	..	1·0	2·1	..	22·5	14·3	24·6	0·3	1·2	0·1	0·6
Sagilér	52,077	0·8	4·6	0·1	26·7	..	18·0	8·1	9·1	3·8	6·7	0·4
Gundlakamma	61,772	..	4·0	..	28·6	..	21·0	10·2	12·0	1·6	3·5	..
Basinepalle	23,507	..	1·9	0·1	6·7	..	19·4	15·6	21·4	14·2	2·3	..
Cumbum	7,959	..	37·2	..	4·2	..	12·9	7·0	7·7	2·9	4·5	..
Vémulakota	25,145	..	3·2	..	3·6	0·2	16·4	20·0	18·8	2·2	13·9	1·2
Dupád	94,175	..	5·1	..	10·1	0·1	15·1	8·3	26·1	2·0	4·4	0·2

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Tract.	Green gram.	Bengal gram.	Horse-gram.	Other pulses.	Castor.	Other oil-seeds.	Indigo.	Cotton.	Tobacco.	Other industrial crops.	Omum.	Chillies.	All other crops.
Kurnool	0·3	1·2	4	..	2·9	2·4	2·6	19·3	0·5	..	..	1·0	0·3
Bellagal	0·9	1·0	1·5	0·8	5·5	0·8	0·8	9·6	..	..	..	1·2	0·1
Hosur	1·1	0·4	1·2	0·4	2·4	0·2	1·1	17·0	..	..	..	0·2	0·2
Piápalle	1·4	0·3	5·9	0·6	17·7	0·6	0·5	2·5	0·2	..	..	0·3	0·2
South Erramala	0·3	2·0	5·0	0·3	6·3	0 3	1·6	3·6	0·5	..	..	0·2	0·4
North Erramala	0·2	2·3	4·1	..	10·7	..	1 4	6·4	1·7	0.2	..	0·7	0·5
Nannur	1·5	3·2	0·6	..	3·0	1·2	2·7	19·0	2·0	0·1	..	1·7	0·3
Nandikótkur	0·9	1·2	4·0	..	4·1	0·8	8·4	8·6	0·8	0·2	0·9	1·0	0·2
Atmakór	0·5	0·8	13·1	..	0·9	0·3	2·8	2·6	..	..	2·2	0·3	0·1
Nallamala	..	0·1	10·0	0·1	0·3	0·1	3·0	11·1	..	0·1	..	1·4	0·9
Kundér	0·1	0·9	0·8	0·1	0.2	0·7	14·6	29·1	0·1	..	..	0·5	0·3
Owk	0·3	2·5	1·5	..	3·0	0·5	2·7	17·1	..	..	..	0·4	0·5
Chaygalmarri	0·5	..	7·0	..	0·2	0 1	8·2	16·4	..	0·1	..	0·3	0·5
Sagilér	0·4	1·0	10·5	0·6	2·5	..	2·5	3·6	..	0·1	..	0·2	0·3
Gundlakamma	..	0·1	9·5	..	3·6	..	1·9	3·1	..	..	..	0·7	0·2
Basinepalle	..	..	10·1	0·1	2·0	..	2·9	3·0	..	..	..	0·2	0·1
Cumbum	..	0·4	3·8	..	1·2	..	10·3	1·0	..	4·8	..	0·2	1·9
Vémalakóta	..	0·2	8·1	..	4·4	..	1·7	6·1	..	0·1	..	0·4	0·1
Dupád	.	0·1	14·0	..	7·4	..	1·0	5·6	..	..	..	0·4	0·1

The area noted as being under 'other cereals' in the tracts of the eastern section is almost all occupied by *Variga*, and these are practically the only tracts where this crop is raised. It will be noticed that in these the crop is of some considerable importance, and especially so in the Vémulakota tract. Wheat, it will be seen, is only grown to a very small extent anywhere, and it is only in four tracts that it occupies nearly one per cent. of the total area under crop; the principal areas under it are noted in the margin. Paddy under irrigation is a very important crop only in the Cumbum tract, but is of some consequence in the Atmakúr, Nallamala, Owk, Sagilér Gundlakamma and Dupád tracts; whilst 'dry' paddy is noticeable only in the tracts along the western foot of the Nallamalas. Jonna is the most important cereal crop in all parts of the district, except the Owk, Nallamala, Chaygalmarri, Basinepalle, Vémulakota and Dupád tracts, the early variety being the sort chiefly raised in the Bellagal, Piápalle and Erramala tracts; and, whilst in the eastern section late jonna is unknown, in the Kurnool, Hosúr and Kundér tracts it accounts for over a third of the land under crop, and in the Nannur, Nandikótkur, Atmakúr and Chaygalmarri tracts, for from one-fourth to a fifth of the area. The early sort is practically unknown in the Chaygalmarri, Kundér and Nallamala tracts.

Wheat.

Tract.	ACRES.
Kurnool	303
Bellagal	1,983
Nannur	361
Nandikótkur	455
Kundér	356
Owk	246
Sagilér	391

Korra is an important crop in the Bellagal, Hosur, Erramala, Nandikótkur and Owk tracts and all the Cumbum taluk except the Cumbum tract, in which parts it occupies from 18 per cent. to 26 per cent. of the land under crop; whilst in no other tract, except the Kundér, is there less than 11 per cent. under it. Arika is found chiefly in the tracts along the western foot of the Nallamalas, and in the Owk, Basinepalle and Vémulakota tracts; but it is scarcely grown at all in the western section of the district, on the Erramalas, or in the Nannur tract, whilst from about 5 to 10 per cent. of the land is cropped with it in all other parts. Sazza is an important crop in the Dupád, Basinepalle and Vémulakota tracts, and is pretty extensively grown in the other parts of the eastern section. It is scarcely found at all in the central section, and only in the Piápalle and Bellagal tracts of the western section does it approach importance. Ragi is an important crop only in the Basinepalle tract, but is also raised on an appreciable area in the rest of the eastern section and in the Chaygalmarri and Owk tracts, where it is often grown under wells or on wet land as a second crop.

The area under pulses is regularly and systematically under-estimated, unless it be that returned as sown with Bengal and horse-gram. Of these two, the former only appears as occupying a considerable area in the Erramala, Nannur and Owk tracts,

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though some is also grown in the Kurnool, Bellagal, Nandikótkur, Atmakúr, Kundér and Sagilér tracts; the latter is an important crop in several tracts, the area occupied by it varying from 7 to 14 per cent. of the total in the Chaygalmarri, Vémulakota, Gundlakamma, Sagilér, Basinepalle, Nallamala, Atmakúr and Dupád tracts, whilst from 4 to 6 per cent. is occupied by it in the Nandikótkur, Erramala and Piápalle tracts. All the other pulses put together are in no case said to occupy more than 6 per cent. of the area under crop; whereas, in reality, they may be said approximately to be sown on an area equal to about the total area of the early cereals, jonna, korra and arika, to which they serve as a second crop. The area shown under horse-gram is too low in some cases also, as it is largely sown together with cotton on the régada soils.

Of the industrial crops, the more important are cotton, indigo and castor. The first occupies 29 per cent. of the total area in the Kundér tract, from about 16 to 19 per cent. in the Chaygalmarri, Owk, Nannur, Hosur and Kurnool tracts, and over 8 per cent. in the Nandikótkur, Nallamala and Bellagal tracts. In three other tracts it accounts for about 6 per cent. of the area, viz., the Dupád, Vémulakota and North Erramala tracts, whilst in the remaining portions of the district 2 or 3 per cent. is occupied by this crop. Indigo also occupies the largest area in the Kundér tract, next to it coming Cumbum, where the crop is grown on the wet land as a second crop; a little being also raised under similar circumstances in the Vémulakota tract. It is also largely raised in the Nandikótkur and Chaygalmarri tracts, and to a small extent in the Kurnool, Nannur, Atmakúr, Nallamala, Owk, Sagilér and Basinepalle tracts, but elsewhere only very little is grown. Castor-seed, on the other hand, is the most important industrial crop in the Piápalle tract, where 18 per cent. of the area is put under this crop, whilst from 5 to 10 per cent. is sown with it in the Bellagal, Erramala and Dupád tracts. This crop occupies no appreciable area in the Nallamala, Kundér and Chaygalmarri tracts, but elsewhere, except in Cumbum and Atmakúr, accounts for 2 to 4 per cent. of the total area. Other oil-seeds only occupy very small areas, though gingelly is commonly raised in mixtures all over the district, but is, to a considerable extent, omitted from the returns. In the Kurnool tract also over 2 per cent. of the area is sown with linseed, of which crop a small area is raised also in several other tracts as noted in the margin, and the area under it appears to have increased somewhat of late years.

Linseed.

Tract.	Acres.
Kurnool	2,773
Bellagal	668
Nannur	593
Nandikótkur	899
Kundér	2,208

Tobacco is practically only grown as a field crop in the Kurnool, Erramala, Nannur and Nandikótkur tracts, the largest area being put under it in the country lying about the northern end of the Erramala hills. The total area under this crop in that locality is noted in the margin, and the system of growth and management of it there-abouts was the subject of a report from Mr. Caine, professional tobacco-curer, last year. A considerable export trade in tobacco already exists.

Tobacco.

Tract.	Acres.
Kurnool	667
Nannur	1,029
North Erramala	1,354
Nandikótkur	1,604

The other industrial crops returned are 5 per cent. of the cropped area under sugar-cane in the Cumbum tract, and small areas of miscellaneous crops in several tracts, made up partly of gogu, which, in reality, is raised in small quantities all over the district.

Of condiments and spices, the only crops largely grown are chillies and omum or bishop's-weed seed. The former crop is raised in small patches all over the district, but, is raised as a field crop, chiefly in the Nannur and Nallamala tracts, in the latter being raised on a considerable area at and near the village of Sirvel; it is also raised in some of the adjoining villages of the Kundér tract. The chief areas under the crop are noted in the margin. Omum, on the other hand, is almost confined to the northern opening of the Nandyál valley in the Nandikótkur tract (1,645 acres) and the Atmakúr tract (936 acres), this being one of the few parts of the Presidency where the crop is raised at all.

Chillies.

Tract.	Acres.
Nallamala	1,063
Kundér	1,559
Nandikótkur	2,035
Nannur	872
Bellagal	2,472
Kurnool	1,211

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The other crops grown are vegetables, fruit-trees, betel-vines, &c., and all together only occupy very small areas, and are not of much importance.

Fallows—in the sense of the term as accepted in England, are practically unknown. Neither bare fallow nor green fallow is to be found, although a considerable proportion of the arable area under occupation is not cropped every year. This, in the abstract, forms an area under fallow, but it is simply land left untouched and uncared for. To this area must be added in some parts a considerable further extent, which is only brought under the plough for a few years, and then thrown up again and allowed to revert to 'waste' until by the processes of natural recuperation it is again able to bear a short scourging course of cropping. This last land is almost always of the poorest quality. Green fallows are never found. The nearest approach to 'bare fallow' is to be seen in the waste land broken up towards the end of one year to be cropped in the succeeding season; but this process is rather one of early cleaning than of fallowing, for at the season that the work is done no crop could be put in and grown. The proportion of the arable area occupied and actually cultivated is shown below:—

Tract.	Kurnool.	Bellagal.	Hosur.	Piápalle.	South Erramala.	North Erramala.	Nannur.	Nandikótkur.	Atmakúr.	Nallamala.	Kundér.	Owk.	Chaygalmarri.	Sagilér.	Gundlakamma.	Basinepalle.	Cumbum.	Vémulakota.	Dupád.
Arable area	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Occupied area	94	78	82	64	73	75	91	76	45	77	96	88	85	79	82	87	90	78	66
Cultivated „	89	73	75	57	66	67	85	70	40	67	94	80	79	68	66	65	81	68	45

These figures show, to a certain degree, the extent to which the occupied land is allowed any rest, and it may be noted that the least is given to it in the Kundér and the most frequent in the Basinepalle and Dupád tracts.

Rotations.—The agricultural statistics afford the best indication of the extent to which rotations, properly so called, are followed. At the present day so little is known, however, of the real character of the nutrition of our several crops, that it is only possible to allude to the cropping on broad general lines. A reference to the table given previously will show the nature of the cropping, which may be summarised as follows:—

Tract.	Irrigated paddy.	All other cereals.	Pulses.		Industrial crops.	All others.
			Bengal and horse-gram.	All others.		
Kurnool	1·3	67·1	1·6	1·0	27·7	1·3
Bellagal	1·0	75·4	2·5	3·1	16·7	1·3
Hosur	0·1	74·4	1·6	2·8	20·7	0·4
Piápalle	2·1	64·4	6·2	5·3	21·5	0·5
South Erramala	2·2	75·8	7·0	2·1	12·3	0·6
North Erramala	1·1	69·3	6·4	1·6	20·4	1·2
Nannur	1·1	60·9	3·8	4·2	28·0	2·0
Nandikótkur	1·1	66·7	5·2	2·0	22·9	2·1
Atmakúr	9·7	65·7	13·9	1·5	6·6	2·6
Nallamala	8·8	63·9	10·1	0·3	14·6	2·3
Kundér	1·1	51·5	1·7	0·2	44·7	0·8
Owk	4·4	66·9	4·0	0·5	23·3	0·9
Chaygalmarri	1·0	65·1	7·0	1·1	25·0	0·8
Sagilér	4·6	73·3	11·5	1·4	8·7	0·5
Gundlakamma	4·0	76·9	9·6	..	8·6	0·9
Basinepalle	1·9	79·7	10·1	0·1	7·9	0·3
Cumbum	37·2	39·2	4·2	..	17·3	2·1
Vémulakota	3·2	74·5	8·3	1·2	12·3	0·5
Dupád	5·1	66·1	14·1	0·2	14·0	0·5

These figures, then, indicate the immense preponderance of the cereal crops. These occupy from 53 to 82 per cent. of the total area in different parts of the district. This being the case, rotations are practically impossible as a general practice. They are, however, to a limited extent attempted, and the common practice of sowing pulses mixed with the cereals does, in a manner, effect one of the greatest benefits to be derived from the practice of a course of rotation in cropping. It is,

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however, defective in several ways, and, as noted below, is not adopted by the ryot with that intention. The particular pulses,—Bengal and horse-gram,—which are generally sown alone, are not taken off the same land in successive years. The former is often taken as a second crop to korra, or as a substitute for an early crop, which has more or less completely failed. It is the only pulse grown separately on the stiff soils, and is generally the first taken after the reclamation of such land from waste, and is then often followed by korra and cotton mixed. Horse-gram, on the other hand, is the pulse crop of the lighter and poorer soils; it is often taken as a catch crop; it is usually the first crop taken from the poorest soils, which are, as a regular habit, taken up for about three or four years, and then again relinquished, and is followed by either arika or korra, more frequently the former. These two crops, therefore, are grown on a system of rotation. They, however, only occupy from $1\frac{1}{2}$ to 14 per cent. of the area under crop in different parts. The industrial crops, which cover from 7 to 44·7 per cent. of the cropped area, are also raised under a system of rotation. Indigo stands on the land for two years, and is followed usually by jonna; cotton and jonna are alternated, and jonna or korra is taken after castor; the other industrial crops are also seldom grown successively on the same land. The minor crops are some of them grown in rotation, and others always in gardens, but the area under these is only just above 2 per cent. of the total in any tract. Accepting all these areas as being alternated with cereals, the proportion of crop so raised in rotation with that class of crop varies from 18 to 47 per cent.; that is, that once in from two to five years, the cropped area may be used to raise crops other than cereals. As a matter of fact, however, in every village the distribution of this area is very irregular, and a great deal of the land is used without intermission for the growth of cereals, so that rotation, as it is usually understood, and as far as we yet understand the habits of Indian farm crops, is practised to only a very limited extent. Alternation of cropping, however, is more largely practised than these figures would seem to indicate, for amongst the cereals themselves the same land is not always invariably used for the same crop. The following arrangements show this :—

First crop.	Second crop.	Third crop.
Jonna.	Korra.	Korra.
Do.	Do.	Bengal gram.
Do.	Do.	Variga.
...	Bengal gram.	Do.
Do.	Korra and cotton.	Jonna.
Do.	Do.	Castor.
Do.	Castor.	Korra.
Do.	Variga.	Do.
Do.	Horse-gram.	Korra and cotton.
Do.	Ragi	Do.
Do.	Arika.	...
Do.	Do.	Horse-gram.
Do.	Indigo.	Indigo.
Do.	Cotton.	Jonna.
Korra.	Arika.	...
Do.	Bengal gram.	Variga.
Arika.	Castor.	Korra and cotton.
Do.	Horse-gram.	Korra.
Sazza.	Korra and cotton.	Castor.
Variga.	Horse-gram.	Korra and cotton.
Horse-gram.	Arika.	Arika.
Paddy.	Indigo.	...
Do.	Sugar-cane.	Sugar-cane.
Do.	Do.	Paddy.
Sazza.	Ragi.	...
Ragi.	Indigo.	Korra.

Except the last five, the alternations noted are followed on 'dry' lands only. On 'wet' land paddy usually succeeds paddy year after year, sometimes two crops being taken in a season, and the three rotations noted with this crop only fill a small area, and then usually the indigo only takes the place of a second crop of paddy in a single year. Sugar-cane is usually only occasionally taken on any land, but at Cumbum it is kept down without replanting for several (some say six or seven) years, the blanks only being filled up annually. The last two rotations are such as are to be seen on the land irrigated

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from wells. Where no third crop is entered, the rotation is either a two-year course or completed in one year. The statistics given show most clearly the extent to which rotations are actually practised, and that, though these alternations may come in to a limited degree, they are seldom followed. The scientific aspect of these alternations needs careful investigation with the aid of an agricultural chemist; for it is quite possible that some of the cereals are not nitrogen feeders like wheat, just as maize has been found not to be.

Sowing seasons.—The distribution of the cropping through the year has already been alluded to, and, with reference to figures given there, it may be said that, taking the cereals first, amongst these in the western section the more important are jonna and korra. Of the former, the early variety of yellow jonna is sown occasionally in *Rohini*,* but more usually on inferior soil in *Mrigasira*, and on the better soils in the succeeding fortnight; the late sorts of the same variety of jonna are usually sown in *Hasta* and *Chitta*, whilst the sowing season for the white jonna is in *Chitta* and *Swáti*. The most usual time for sowing korra is *Punarvasu* and *Pushyami*, but occasionally it is put down as early as *Arudra*, or as late as *Aslésha* in case the rains are deferred; the later sowings of this crop being usually those made when it is intermixed with cotton. Sazza and arika are usually sown at about the same time as the early jonna, but everywhere it is considered advisable to get the poorer soils sown first.

In the central section of the district, the sowing of the early crops is usually about a fortnight later than in the western section; the early jonna going in during *Arudra* and *Punarvasu*, arika in the latter *Karti*, and korra in *Pushyami* and *Aslésha* or even on pure régada soils in *Makha*, although some may be sown in *Punarvasu*; the later sowings following the same general rule as in the western section. In this section a great deal of the jonna grown belongs to the late yellow sorts, and is put down about *Uttara*, at which time and in the succeeding fortnight the white jonna is also sown.

In the eastern section of the district, the jonna crop is sown in *Arudra* and *Punarvasu*, the garden sazza being put down at about the same time, as well as arika; korra, usually sown mixed with cotton, follows in *Punarvasu* and *Pushyami*, whilst about *Anorádha* and *Jeshta*, variga is sown, and at the same time the garden ragi is planted out.

Paddy is sown either as a dry crop or irrigated; most of that raised on the former system being grown in the central section of the district, and is put in about *Punarvasu*, though sometimes earlier; whilst if it be intended to water the crop, it may be drilled in at about that time or earlier; or, again, if it is to be sown in puddle, it will not usually be sown before *Aslésha* or *Makha*. Second crop paddy is sown usually about *Jeshta* or *Múla*, but all the sowings depend on the coming of the rains.

The greater part of the pulses are sown mixed with one or other of the cereals; red gram with arika, dry paddy or korra; green gram with korra and jonna; anumulu, alatsandulu, mittikelu, with the early jonna; whilst Bengal gram is sown by itself almost universally in *Chitta* and *Swáti*, horse-gram is usually put in at about the same time, though it is also sown mixed with cotton to a large extent, and is, if late rains fall, taken as a catch crop on poor land later even than *Swáti*.

The more important industrial crops are sown as follow:—Indigo, if sown on dry land, between *Mrigasira* and *Punarvasu*, and is kept down for two years; if it be irrigated, it is sown in March: castor, also usually an early crop, is put in at about the same time as the 'dry' indigo, and often mixed with it; and cotton follows later between *Makha* and *Uttara*. Tobacco is planted out in *Makha* and *Pubba*. Sugar-cane is an annual crop usually planted about April.

In a previous chapter the characters desired in a season as favorable to crops generally have been alluded to, but the following saying is interesting on the same subject:—

'Árudrana vésiná arike, ákulópettina annamutóti samánamu.' — 'A crop of arika sown in Arudra is as safe as food served on a leaf.'

Regarding the sowing of paddy the following sayings are in vogue:—

'Pubbaló puttedu challutakanté, Ásléshaló addedu challuta mélu.' — 'It is better to sow an adda of seed in Aslésha than a putti (160 addas) in Pubba.'

* For periods included in Karthulu see page 46.

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This belief that Pubba is an unfavorable time for sowing paddy is emphasised in the next:

'Pubbaló challutakanté dibbalo vesédi mélu.' — 'It is better to cast the grain on the manure-heap than to sow it in Pubba.'

This unfavorable season extends still further as the saying shows:

'Uttaraló challité úbukoni thinádánikiledu.' — 'Paddy sown in Uttara gives but a meagre yield.'

or again:

'Malapunnama mundara mádiga vadáina challadu.' — 'Not even a madiga (the lowest, poorest and stupidest of people) will sow before Malapunnama.'

The time alluded to being the new moon of the month of *Bhádrapadam* or about September. The reasons for these beliefs are not altogether clear, but it is interesting to note them as existing and controlling, to a great extent, the operations of the ryot, and indicating the comparative inflexibility of his agricultural system, as it is believed that many of the sayings are not of purely local application.

Seed-sowing.—In connection with this subject, the most striking point is the extremely small amount of seed generally used. The following figures show this, but it must be remembered that in several cases the crops are sown mixed with numerous pulses and other crops:—

Crop.	Seed per acre. LB.	LB.	Crop.	Seed per acre. LB.	LB.
Early jonna	5 to	8	Indigo	5 to	8
Late jonna	4 to	6	Castor	2½ to	4
Korra	4 to	6	Cotton	20 to	25
Sazza	4 to	5	Linseed	5	
Arika	5 to	9	Kusuma	5	
Variga	5		Vamu	4	
Paddy	50 to	100	Horse-gram	5 to	9
Wheat	30 to	50	Bengal gram	30 to	50
Ragi	3 to	5			

The larger quantities are usually sown on the inferior soils; the smaller on the good ones. The early jonna is the one crop of all with which the pulses are perhaps most largely mixed. These crops and others are sown either mixed up with the jonna, or in intermediate lines, at distances of 3 or 6 feet apart: the former are said to be '*kalupu*;' the latter '*akkadi.*' The principal crops sown mixed with the jonna are pesara, sazza, and gingelly, the total quantity of each being very small, and amounting in all to about 1 lb., whilst in the occasional rows as much as 2 lb. of kandi and a little alatsandu, anumu, and gogu are also sown with some, and with some castor or red cotton. In a few cases indigo is sown down with the jonna, and remains after the harvest of the latter to produce a crop in the succeeding year.

Korra is sown in two ways: either mixed with a little pesara and gingelly and perhaps a little sazza or cholum, afterwards cut out for fodder, or with rows of kandi mixed with a little gogu, or with castor sown through it on the *akkadi* system, or alternated with cotton, in which case there will be two rows of korra alternating with one of cotton.

With arika and dry paddy kandi is sown on the *akkadi* system, and occasionally a little pesara, gogu and gingelly are mixed with it. Sazza is in the western section of the district often mixed with early jonna to the amount of about 1 lb. an acre, or again it is sometimes the chief crop, sown mixed with a little jonna, pesara, and gingelly, and some anumu (1½ lb.) on the *akkadi* system.

Indigo has often rows of castor sown through it at 6 or 12 feet apart. Castor is usually sown by itself when it forms the main crop. Cotton is, as already noted, sown with korra, or when it forms the chief crop is usually mixed with horsegram, which is removed before the cotton begins to bear. Kusuma is sown on those margins of wheat, Bengal gram, and linseed fields that adjoin pathways, its prickly leaves forming a protection against grazing and trespass. Ragi is also occasionally, in the eastern taluks, sown in alternate lines with cotton. The practice of sowing crops mixed together, which so largely prevails, is, as the following saying shows, adopted mainly to give the ryot more than one string to his bow:

'Aité árika kákunté kandi.' — 'If arika fails, well! there will be kandi.'

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Seed required for sowing is almost always specially preserved, the usual practice of preserving grain in pits being destructive of its vitality. In the case of jonna and sazza, selection of the ears to produce seed-grain is practised, and the ears being separately threshed by hand, the grain after winnowing is stored in pots or baskets covered with the leaf of Bengal gram, and in many cases a few leaves of *Bodatharam* (*Sphæranthus hirtus*), whilst the grain is taken out about once a month and is dried to preserve it from the attacks of insects. Korra needs no such special treatment to keep it thoroughly dry. The seed of the pulses is very similarly treated. The only seeds that undergo any particular and special preparation before sowing are cotton, and paddy that is to be sown in puddle. The former is first sifted through a rattan sieve of a coarse mesh to separate the seeds and then washed in cow-dung water and dusted with earth in order to prevent the seed from sticking together and so rendering it impossible to sow it. The latter is steeped in water and sprouted before it is sown.

All the dry crops are sown with the drill in the western and central divisions of the district; but in the eastern taluks broadcast sowing is tolerably common.

Under the heading of tillage, the system of cultivation pursued has already been referred to very fully, and it is scarcely necessary to add any more in this place. Detailed treatment of each of the crops would necessitate the undue expansion of this paper.

After-cultivation is very similar for nearly all the crops, and the general practice has also already been described. Of all the crops which occupy a wide area, castor is the only one that can be said to receive special treatment in after-cultivation. In the case of this crop, as the lines stand far apart, it is possible to work not only the grubber and the bullock-hoe, but the plough also. The latter implement is often run along-side the rows of plants to a width of one or two furrows on either side, and also frequently, when the crop is still small, across the lines of plants. The wide interval between the rows is thoroughly worked with the scuffle, and the general result is that the castor fields are usually extremely clean, and the soil is then free and open. It is thus that this crop is a good preparation for the succeeding year. Korra, which often follows castor, is the only 'dry' crop grown on a large scale, which is hand-weeded at all. Tobacco and chillies are more frequently and thoroughly bullock-hoed than any other field crops, except castor, and are also hand-weeded regularly.

Harvesting, &c.—The time of harvest depends, of course, on the time of sowing a crop. The harvest of the early cereals often falls in uncertain weather, but usually just about the time of the latest rains. Not at all infrequently fields of korra, which is practically the earliest crop for harvest, may be seen considerably injured by heavy late rains, whilst the early jonna also at times suffers from a similar cause. The system of harvesting jonna varies somewhat. In fields that lie far from the village, the ryot prefers to cut off the ears and cart them to his stack-yard first, and then to reap the straw; whilst in the fields lying close around the village, the whole crop is often reaped and carted and the ears cut off later on. These variations are induced by convenience and prudence. In the Piápalle tract, and with the early jonna generally, it is customary to reap the crop sometimes with the ears and sometimes after removing them, and stack it in small stacks in the field, such as are called in Cornwall "airish mows," and keep it there until pressure of work and suitable weather renders it more convenient to haul it home to be threshed and permanently stacked. This is usually a month or two later. Everywhere with jonna the extreme length of the stubble left is noticeable, the lower part of the straw being considered valueless as fodder. In this way, there is great waste of fodder. The ears, if cut separately, are stored in baskets until it is convenient to thresh out and dry the grain; the threshing goes on from about Christmas till about April in different parts of the district, but most of it is complete before March.

The system of threshing is for almost all crops the ordinary Oriental one of treading out the corn by bullocks, driven round and round in a circle on the ears. In a few villages, however, in parts of the Kundér and Hosur tracts, a practice has risen up of late years, and is slowly spreading, of threshing the grain with a roller. An ordinary stone road-roller is used. The ears are laid out in a pathway about 6 feet wide in a circle of about 30 to 40 feet diameter, and the roller is drawn over the ears by a single pair of bullocks. It is asserted that by this system a single pair of bullocks can thresh out as much as nine or ten pairs on the ordinary system. The practice

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appears to have sprung up since the great famine, when great numbers of stone-rollers were made throughout the country, and to have spread from the parts of the Kundér tract to the village of Maddikera in the Hosur tract. It is not general. After being threshed the empty ears are raked away, and the grain, chaff and dirt winnowed out by the wind. Before February, there is not usually much wind for this purpose. After being winnowed the *jonna* is stored in pits, which are to be seen in all villages, and very generally in the most public parts of them. *Sazza* is harvested at two operations. *Korra* is reaped at one operation, and bound in sheaves, stacked in the field, and threshed, when convenient, either there or in the ryot's stack-yard. *Arika* is similarly treated. *Variga* is usually carted home at once, being a late crop.

Of the pulses, the harvest for *pesara*, *anumu*, and *alatsandu* usually falls about a month after the early cereals have been reaped. In part the produce is collected in the fields by women, especially in the case of anumu, but finally the whole plant is pulled up, piled in heaps and carted to the stack-yard, and there threshed. *Kandi* stands longer on the land, and goes on flowering for about six weeks, so that the ripening is spread over a somewhat similar period. It is finally reaped and threshed by being beaten with sticks. Bengal gram and horse-gram are nominally reaped, but more generally pulled, and are threshed in the whole plant. The pulses generally are threshed by hand with sticks, and then winnowed, but in the case of horse-gram cattle are used to tread out the grain, which also is sometimes done with Bengal gram. The refuse pods, leaf and stems are carefully collected and much valued as cattle-fodder.

In the case of indigo, the main harvest occurs in September and October, when the plant is reaped in the early morning, tied in bundles and carted to the vat. The crop then remains on the ground for another year. In some cases a crop of seed only is obtained, and the produce sells at very good prices for export to the south. Castor is collected as it ripens, and the seed-pods are spread in the sun till they burst, and it is possible to separate the berry. Cotton yields its first picking about March, and is said to bear three times, but, in reality, the picking goes on steadily for about two or three months, after which the plant dries up. The cotton in seed is carried home and gradually ginned by the ordinary hand-roller gin. The sugar-cane harvest begins about February, and goes on for two months. Altogether the ryot has few difficulties in his way, or dangers to avoid, at harvest time, except in the case of indigo, and occasionally with the early cereals. Rain that falls later than usual sometimes injures the latter crops, and cloudy weather and rain about December often causes great damage to the pulses.

Insect enemies and plant-diseases.—Any account of these, which can be of much value, is impossible at present from the difficulties of collecting information on the subject and the absence of any work to which reference is possible to allow of identification. These two subjects are also so wide that they would require two specialists to take them up. Only an enumeration of the diseases noted can be made here.

Diseases (Tegulu).	Crop affected.	Remarks.
Lakkákku	Jonna	Rust, common on the early jonna on poor soils.
Kátiga kunki	Do.	Smut, not very common.
Tella natta	Do.	Leaf turns white and eaten by insects, top leaves fade and ears fail to appear. Seems to be due to a borer.
Mallé	Arika, korra and jonna ..	A parasitic growth of the *Striga densiflora*.
Bódaguddi	Korra	Apparently a form of rust. Observed on all sorts of soils.
Maggigé	Paddy	Flower leaf turns pale and is eaten off.
Muriki or korakadi ..	Do.	The leaf withers from the top, the plants fade, and ultimately dry up.
Errajamma or botha ..	Do.	Apparently a form of rust.
Nandra	Wheat	Plant stunted a few days after sprouting and fails to grow.
Pasupu or kunkuma ..	Do.	Apparently a form of rust.
Kátika	Do.	Apparently smut.
Mudatha	Indigo	Leaf rolls up and plant ceases to grow.
Budidé	Do.	Leaf turns ash color and falls off.
Banka magulu	Cotton	A honey-like exudation appears on the leaf and stem and the plant ceases to grow just as it is about to come into flower.
Masi	Cotton, castor and chillies.	The leaves turn black and wrinkle up.
Bingákku	Castor	The leaf remains small.
Maggigé	Do.	
Budidé	Tobacco	Apparently a form of mildew.
Mallé	Do.	A parasitic growth of the *Phelipæa Indica*.

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Diseases (Telugu).	Crop affected.	Remarks.
Insect enemies (*Purugu*).		
Thompu	Jonna	An insect appears over the plant when a month old, which dies off from the upper leaf.
Aggipurugu	Do.	A minute winged insect, probably a 'lady-bird.' Attacks the ears as they appear. Very destructive. Said to appear once in 5 or 6 years.
Laddé	Do.	Apparently a borer in the stem, which prevents the formation of the seed.
Pacha	Do.	An insect covering the seed with a black powder. Apparently follows on an attack of smut.
Varu	Do.	An insect attacking the root and causing the plant's death, not seen in rich soils.
Gurramutti	Sazza	A red-winged insect ¾ inch long, horse-like in appearance as its name indicates.
Kotimuku	Do.	A black-winged insect.
Budda	Bengal-gram	Attacks the plant in flower. During cloudy weather this crop suffers from many insects which eat off the leaf.
Goggi	Cotton	A small black weevil bores into the boles and prevents their harvesting.
Námála or Dasari ..	Castor	Caterpillars which often strip the crop of leaf to the bare stem.

Regarding these diseases and insect attacks, it can only be noted that rust on the early jonna is very common, but smut is not. *Mallé* is seen frequently on the late jonna, and is believed to cause a good deal of loss. On wheat, diseases are common and often fatal, so much so as to render the crop extremely precarious. Indigo suffers a good deal from disease, and cotton is frequently rusted. The *Mallé* on the tobacco is common enough, but not a cause of serious loss. *Laddé* is often seen on jonna, but does not cause much loss. All the pulses suffer a great deal, if the weather be persistently cloudy and damp about the time of flowering, whilst the destruction of the castor crop by caterpillars of several sorts is common. The precautions taken by the ryots to prevent the attacks of insects, &c., are usually superstitious or fanciful. These are pongali, poli and bali. The first is the boiling of rice near the field; the second an animal sacrifice under similar conditions; and the last the scattering of the rice from the *pongali* mixed with the blood of the *poli* over the affected crops. As regards the *kátiga* on jonna, the seed is prepared before sowing as follows:—Asafœtida, *vadsa* (*Acarus calamus aromaticus*) and frankincense are powdered together and mixed with cow's urine, and the seed is soaked therein. When sazza is attacked with the *Kotimuku* insect a long rope soaked in the juice of the (*Aristolochia bracteata*) *Gadidegadapa*, or with the leaves of the plant attached to it is drawn over the crop. When paddy is attacked with the disease called *Korakadi*, a small potful of the previous day's butter-milk is taken and poured into the stream of water irrigating the plot, and when the same crop is attacked with rust the field is covered with the leaves of the *Kanuga* tree (*Pongamia glabra*).

CHAPTER VIII.

LIVE AND DEAD STOCK.

The Live-stock of the ryot consists of tilling bullocks and he-buffaloes (in some places), cows, she-buffaloes, and the offspring of the last two, sheep and goats. The latter are usually kept by shepherds who subsist on their produce. In some places around the foot of the Nallamalas and on the Erramalas considerable herds of breeding cows are kept by Lambádies, and in the same localities as well as in the Piápalle tract cattle-breeding is carried on pretty extensively by the ryots. She-buffaloes are kept by almost every one, and their produce is a source of income not to be despised; they are particularly the charge of the women-folk, and are a most important item of the ryot's stock, especially in those tracts, such as the Kurnool and the Kundér, where *régada* soils prevail. The following is an abstract of the number and descriptions of stock kept in the different tracts, together with certain interesting particulars as to the proportions they bear to one another. The total stock kept in proportion to the occupied area has already been alluded to in dealing with the manuring forces available, and it will be remembered that it is largest in the Dupád tract, in the Cumbum

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taluk, and in the South Erramala tract, whilst it is also large in the Vémulakota Atmakúr and North Erramala tracts, and fair in all others, except the Kurnool and Bellagal tracts where it is small and the Hosúr and Kundér tracts where it is reduced to a minimum :—

Tract.	Working Cattle.			Breeding Stock.		Number of	
	Bullocks.	He-buffaloes.	Number of he-buffaloes to every 100 bullocks.	Cows.	She-buffaloes.	Breeding to every 100 working cattle.	She-buffaloes to every 100 cows.
Kurnool	7,211	1,766	24	2,349	4,249	73	181
Bellagal	15,033	3,275	22	7,852	6,916	81	88
Hosúr	3,627	189	6	1,234	1,203	76	97
Piápalle	16,384	2,646	16	12,803	6,568	102	51
South Erramala	5,024	353	7	5,021	3,760	163	75
North Erramala	9,065	489	5	6,157	6,992	138	114
Nannur	4,074	317	8	1,832	2,945	109	161
Nandikótkur	14,328	1,300	9	8,092	11,106	123	137
Atmakúr	4,888	417	9	4,988	3,061	152	61
Nallamala	7,719	915	12	3,968	5,959	115	150
Kundér	19,551	619	3	5,412	19,997	126	369
Owk	3,471	313	9	1,551	3,043	121	196
Chaygalmarri	5,028	503	10	2,384	4,452	124	187
Sagilér	6,066	225	4	4,805	7,820	201	163
Gundlakamma	7,195	194	3	8,593	7,142	213	83
Basinepalle	3,113	59	2	2,991	2,798	182	94
Cumbum	1,348	1,328	98	272	1,108	52	407
Vémulakota	2,748	285	10	1,750	2,056	125	117
Dupád	14,139	2,609	18	24,028	12,930	221	54
Grand Total ..	149,412	17,802	12	106,082	114,105	132	108

Tract.	Young stock.		Proportion of young stock to		Sheep.	Goats.	Number of goats to every 100 sheep.
	Cattle.	Buffaloes.	100 cows.	100 she-buffaloes.			
Kurnool	3,513	5,684	150	134	46,863	11,250	24
Bellagal	10,514	9,178	134	133	60,912	14,964	24
Hosúr	1,454	1,239	118	103	7,586	3,293	43
Piápalle	18,401	9,414	144	143	50,296	24,588	49
South Erramala	6,706	4,643	134	123	15,303	13,120	86
North Erramala	8,066	8,396	131	120	17,615	21,190	120
Nannur	2,825	3,987	154	135	12,278	7,458	60
Nandikótkur	11,794	14,113	146	127	45,956	21,672	47
Atmakúr	6,734	4,167	135	136	7,767	7,404	95
Nallamala	5,505	7,309	139	123	16,977	6,637	39
Kundér	7,730	21,502	143	108	45,337	26,059	57
Owk	1,919	3,323	124	109	13,483	9,833	73
Chaygalmarri	3,182	5,064	133	114	13,404	5,125	38
Sagilér	6,423	9,014	134	115	17,452	10,525	60
Gundlakamma	11,567	7,685	135	108	21,883	18,828	86
Basinepalle	4,339	3,167	145	113	13,682	11,315	83
Cumbum	373	1,260	137	114	2,382	924	39
Vémulakota	2,001	2,478	114	121	18,341	4,926	27
Dupád	22,587	14,220	94	110	116,439	55,612	48
Grand Total ..	135,633	135,843	128	119	543,956	274,723	51

When looking at this table, it is necessary to remember the *data* already noted as to the area kept under cultivation for each pair of working cattle in the different tracts, which, as has already been pointed out, depends chiefly on the nature of the prevailing soil. This, in the Kundér, Chaygalmarri, Nandikótkur, Owk, Nannur, Kurnool, Bellagal and Hosúr tracts, is large, and therefore the apparent importance of the breeding carried on, as shown by the proportion of breeding to tilling cattle, is much lessened. Bearing this fact in mind, it may be said that breeding is most extensively carried on in the eastern section of the district, with the exception of the Cumbum tract, where there is practically none, and the Vémulakota tract, where what there is, is fostered by the near neighbourhood of hills and waste land. After this come the Erramala and Piápalle tracts, and those lying along the foot of the Nallamalas and the Nandikótkur tract, which also touches those hills. The breeding of neat cattle is most important in the Dupád and then in the Atmakúr, Gundlakamma, and South

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Erramala tracts, and less so in the Piápalle, Nallamala, North Erramala, Bellagal, Nandikótkur, Sagilér and Basinepalle tracts; whilst the breeding of buffaloes is most extensively pursued in the Kundér and Sagilér tracts, and largely in the Dupád, Nandikótkur, Gundlakamma, North Erramala and Nallamala tracts. The breeding of buffaloes goes on every where in fact, but it is pre-eminently the description of breeding that is carried on where stiff soils abound, to the exclusion of breeding neat cattle.

The statistics here given as to the number of young stock kept are the first of this kind published, and although there is every reason to believe that they are tolerably accurate, still it cannot be overlooked that the peculiar variations in the proportion of young to breeding stock are not easily explained except on the supposition that the figures are not absolutely accurate. The higher proportion of young cattle to cows in the Kurnool, Nannur, Nandikótkur and Kundér tracts might be attributed to the customary importations of large numbers of young Nellore bulls into these tracts, but that would not account for similarly high figures in the Piápalle and Basinepalle tracts in which the only explanation that could be offered is that the grazing is superior there, and the cows therefore breed more freely, but this would apply more forcibly to several other tracts, *e.g.*, North and South Erramala, Atmakúr, Nallamala, Chaygalmarri, Sagilér, Gundlakamma and Dupád, which, and especially the last, do not show a similarly high proportion of young cattle. The low proportion in Dupád is probably due to omissions. The general average proportion in the breeding tracts may be taken at about 135 young cattle per 100 cows; and in the black-soil tracts, where there is little breeding, and working bullocks are chiefly imported as young bulls, it will be higher.

When we turn to the figures showing the proportion of young to breeding buffaloes similar difficulties arise, but they need not be held to vitiate the statistics. In the Gundlakamma, Kundér, Dupád and Hosúr tracts, there is practically no demand for the services of he-buffaloes, and there are few special facilities for rearing them, and they are therefore probably sold off much younger than elsewhere. In the Piápalle, Bellagal and Kurnool tracts there is a fair demand for the he-buffaloes, and the facilities for disposing of them are not so great as in the Kundér valley or near Cumbum. It would appear, therefore, that the maximum proportion of young buffaloes raised is about 134 for every 100 she-buffaloes kept, but that in parts it sinks nearly as low as 100. The lower proportion of young buffaloes found, as contrasted with that of neat cattle, is due to their greater delicacy and also in part to the small demand there is for plough buffaloes.

The only tract in which he-buffaloes are largely used is Cumbum, but a fair number are utilised in the Kurnool, Bellagal, Piápalle and Dupád and a smaller number in the Nallamala, Chaygalmarri and Vémulakota tracts. Elsewhere the figures given in column 4 of the statement show them to be of little or no importance. Cumbum is supplied partly from the Nandyál valley and partly locally, whilst a large export goes on regularly in these animals from all other parts of the district, chiefly to the southern districts.

The peculiar variations in the proportion between sheep and goats appear to show defective registration or classification, although the total number, as shown by the special return over the ordinary returns of previous years, shows an enormous increase, varying from about 15 per cent. in Sirvel to nearly 750 per cent. in Cumbum. The proportion of goats, nevertheless, is greatest in tracts that are hilly or border on hills, and lowest where open and level land prevails. This form of stock is, however, to a great extent migratory, and does not so much belong to particular villages as do neat cattle and buffaloes.

Working Cattle.—He-buffaloes are not largely used in tillage, except where there is 'wet' cultivation, or where wells are abundant. They are, however, used all over the country by wudders and woodmen in the carting of stone and timber from the quarries or the forests. It may be said, therefore, that, with few exceptions, bullocks form the tilling power of the district. On the whole, these are remarkably good, and especially so in the Nandyál valley.

The number kept varies greatly, as has been shown in dealing with the question of tillage, one pair sufficing for 34 acres of land in the Kundér tract and for 18 acres only in the Piápalle tract. These bullocks are either of the Nellore breed

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or locally bred. The number derived from these two sources varies greatly. It may be said that in the Kurnool, Nandikótkur, Kundér and Chaygalmarri tracts, the Nellores greatly preponderate and exceed three-fourths of the total; in the Kundér tract, especially, nearly all the tilling bullocks are Nellores. In the Bellagal, Nannur, Atmakúr, Nallamalas and Owk tracts the numbers are about equal, whilst in the Piápalle tract locally bred cattle preponderate, and on the Erramala scarcely any Nellores are used except in a few villages. In the eastern section of the district most of the cattle are locally bred, but often show a strong affinity to the Nellore type from intermixture of blood, and the small proportion of Nellores imported do not, as a rule, reach anything like the same development as the race does to the west of the Nallamalas on the rich soils of the Kundér. In this section also there are to be found a considerable number of 'Dupád' cattle, bred on the Nallamalas on the banks of the Kistna.

The Nellore cattle, found all over the district, are imported by regular dealers who bring droves of young bulls, aged from 18 to 24 months, during the months from October to March, and dispose of them as they travel through the country from east to west. Some of these droves come by the two passes in the Nallamalas, the Nandikanama, and Mantralakanama, whilst others prefer, on account of the absence of forest restrictions on grazing, &c., to travel on the northern bank of the Kistna through the Nizam's dominions. The cattle are bred in the northern parts of the Nellore and the adjoining parts of the Kistna district. As a rule, only young bulls are brought over, it being a rare thing to see a cow of the Nellore breed in the district. The bulls are sold at prices varying from 40 to 80 rupees, the price being paid in 4 or 5 instalments spread over three years, so that the debt on the animal is cleared by the time he comes into full work. The debt is secured on a bond, but it is reported that the dealers never have to sue on the bonds, although it is possible that they have some trouble in collecting their debts. Usually one-third of the cost of the bull is paid at the time of sale, and the remainder in the two following years. During the 2 or 3 years that these young bulls are kept by the ryots before being put to the yoke, they are carefully looked after and fed; they are, in fact, treated very much as members of the ryot's family, and the better off the owner, the better fed will the stock be. Besides an abundant supply of jonna straw, these young bulls receive about half the quantity of artificial food allowed to the working cattle, and green fodder when available. The consequence is that these Nellore bulls develop into very fine animals wherever the soil is good and the people fairly well to do, *e.g.*, in the Nandyál valley on the rich black-cotton soil plains of the Kundér tract, where perhaps this breed reaches its greatest development and weight. This is not the place to describe the Nellore breed, but it may be noted that they are valuable for their strength and docility, but their legs and feet are bad and unfit them for work on any dry, stony or gravelly soils; their want of activity also militates against their value in any situations. Still they are most valuable draught cattle to the ryot in the soils to which they are suited. They are, however, not nearly so hardy as cattle of the local breeds.

These young bulls are usually emasculated in the fifth year, the operation being performed in the latter months of the year, cold weather and plenty of grass being desirable at the time. The process usually followed is that of mulling the *testes* between the hands; but in cases where the organ refuses to break up under this treatment, it is laid on a stone and broken up with a small hammer. After the testes are crushed into a pulp, which must be the cause of great pain to the animal, bullocks are given $\frac{1}{4}$ to $\frac{1}{2}$ a measure of goat's milk, to which the white of an egg and powdered pepper have been added. The parts are anointed with cattle dung and the animal is kept in-doors for 2 or 3 days, and daily for a week cold water is poured over the parts. Bullocks do not appear to suffer from the operation, which is rarely performed at any earlier age and seldom deferred till later. The ryots fear that full development may be arrested by earlier castration, and that if an animal is worked much before he is castrated, he is weakened thereby. Bulls of the local breeds are usually castrated when about four years old. Incomplete destruction of the testes is not at all uncommon, and leaves the bullock to be a plague to all the cows he comes near.

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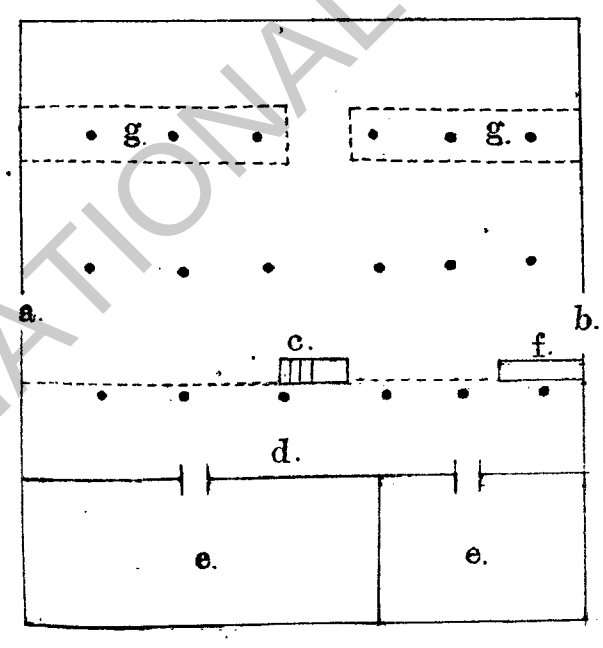
From the time of castration till old age or death the bullock goes through much the same routine of work and food from year's end to year's end. This will be described below.

The local breeds are—(1) country breed, (2) Erramala, (3) Dhupáti. The first name is noted only for sake of convenience; the cattle which come under that heading are mongrels of varied sizes, sorts and colors. Amongst them the most valued color is that of a grain of wheat, white, red, and black following. These cattle show but little 'character,' and therefore it is difficult to say much about them. The more nearly the cattle approach to either the second or third breed the more valuable they are, but it is seldom that much sign of Nellore blood shows itself in the locally-bred cattle of the western and central sections of the district. These country-bred cattle are far hardier, more active, longer lived, and more spirited than the Nellores. They stand a rough life and bad usage well, and do not require nearly so much artificial food to keep them in condition when on hard work. They form the bulk of the tillage cattle on the lighter soils and of the draught cattle on the roads. They, of course, vary very much in value and quality. The best of these mixed breed cattle are to be found along the western foot of the Nallamalas and especially near Atmakúr, where the cattle are often of a remarkably good character and style. The Erramala breed of cattle are of medium size, very active, wild and spirited. They carry long sharp-pointed horns, which, in good specimens, should meet at their tips. They are renowned for their hardiness and endurance, and the best type of them will be found in the high-lying villages of the South Erramala tract. They are not much seen at the plough or in carts, but are rather used as pack-bullocks. After they have been thoroughly trained, they make excellent coach bullocks, and the soundness of their feet enables them to go long distances on the roads and hard gravelly soils without needing shoeing. The Dhupáti breed usually resembles the Erramala very much in type and character, but its color is usually a pale red, and it is rather smaller in size. The cattle are remarkably neatly and trimly built, of medium height, and great power and pluck. These cattle are bred in the jungles lying about and beyond the Kistna, and are brought southwards for sale. They are chiefly found in the eastern section of the district, but are also to be seen elsewhere and are employed largely in the carriage of firewood and salt by their owners the Lambádies.

The housing provided for these cattle is simply a section of the ryot's house over the greater part of the district; one-half of the house or less forming the ryot's dwelling and store-rooms, and the remainder his cattle byre. The latter is practically the entrance hall and bed-room of the ryot, where man and beast lie down together. The hall is often tolerably spacious, but its ventilation is dependent on the door-ways, which may stand opposite one another. On one side of the passage between the doors the cattle are tied, and on the other the ryot lives. At night the doors are closed, and the only vent left open is a small opening in one upper corner to allow egress for the smoke. The floor is usually paved with stone, often large slabs of slate being used, but it soon becomes uneven and the inequalities meet with little attention. No provision is made to carry off the urine of the stock, which soaks into the sub-soil. The condition of the air inside such a house in the early morning can be better imagined than described: the effluvia from the floors, the vitiated air breathed by the animals and men during the night, and the smoke of an early-lighted fire com-

The annexed sketch will convey an idea of the arrangement of these houses:



a. Outer door-way.
b. Door to backyard (frequently absent).
c. Steps.
d. Raised platform on which the ryot lives, cooks, &c.
e. Store-rooms.
f. Water-trough.
g. Mangers for fodder, to which cattle are tied.

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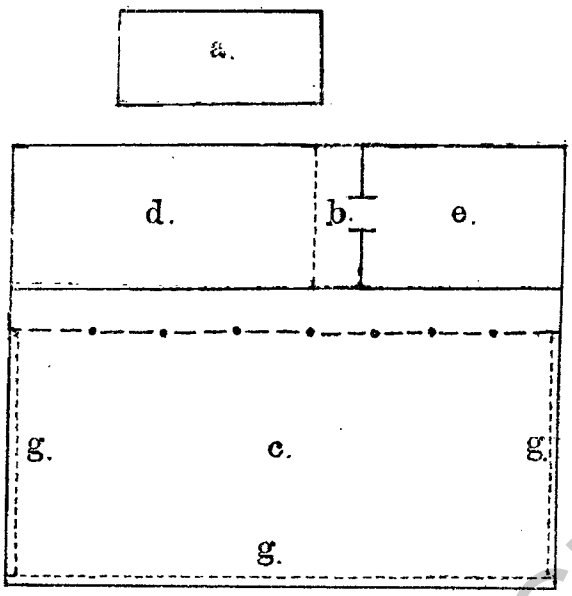
bine to form an atmosphere strong enough to appal the boldest. Nevertheless, the stock and the people do not seem to mind it. From June to March, most cattle are housed in these 'black holes,' but during the great heat of the remaining months the men sleep in the open, and the cattle are, as far as possible, tethered outside also at night. This manner of housing is the commonest, and is everywhere followed where the flat-roofed houses are seen, although a few of the most wealthy ryots reserve separate houses for themselves. In other parts where good building stone is not to be had, and especially along the foot of the Nallamalas, the ryot either shares his thatched hut with his cattle, or provides them with one as good as his own. The walls of these sheds are usually made of wattles, which allow of full and complete ventilation. The fittings of these byres are simple in the extreme. The flat-roof is supported by massive posts and to these or to the mangers the cattle are tied in a double row, head to head, with the manger between them. The mangers are made, where possible, of slabs of slate, about 2 feet high and as broad. In them the fodder is placed. Where stone is not available for making these mangers, they are made of a frame work of bamboos. If only a few cattle are tied up in the house, the mangers are placed against the wall. This housing is provided for the working cattle and young bulls and for the she-buffaloes, although these are occasionally tied up under a lean-to roof in the backyard of the house. Cows and their calves are also housed in this way if only few in number, but where a herd of any considerable number is kept, they are penned in an open yard. The Lambádi cattle will be referred to separately below, as they are kept solely for breeding purposes, and are never housed at all.

In the eastern section of the district also separate sheds are usually provided for the stock; these are frequently circular when separated from the ryot's house, or arranged as in the following sketch of a typical house seen near Dupád.



a. Cook-house.
b. Entrance and passage.
c. Cattle-shed.
d. Living-room.
e. Store-room.
f. Mangers for fodder.

In this case there are two pitched thatched roofs resting on mud walls.

The management of the working cattle is the next matter for description. It varies slightly in accordance with the accessibility or otherwise of grazing grounds, but working cattle are seldom sent any considerable distance for grazing, and are usually separately herded. When grazing is easily accessible, the cattle are turned out at an early hour, when the ryot first gets up, and grazed till about 8 A.M. and then yoked and worked with perhaps an hour's rest till 5 P.M., when they are again grazed till 8 P.M., brought home and tied up. In other places, during the working season, the cattle either go out at 6 or 7 A.M. and work till noon, and again after an hour's rest, during which they are given some cholum straw, till about 5 P.M., and are then brought home and tied up after being watered, or do not go out till 9 A.M. and are kept at work with a brief rest at midday till 5 P.M. In some cases, a very early start is made, and the teams are brought home by noon and fed in the house, but more frequently the ploughmen do not start till after they have had their early meal at about 7 or 8 A.M. These details relate more particularly to the cultivating season, or more or less from April to October; later on, the bullocks are often tethered all day in the cholum fields, and fed on stunted plants collected for the purpose. From April to July, after being watered and tied up in the evening, the cattle are given a feed of jonna straw if it is available, and later on at the ryot's bed-time the manger is filled with a mixture of korra straw and *pottu*, which feed is again repeated at about 4 A.M., followed later on by some more cholum straw. During the period when grass can be obtained in the fields, a great deal of it is collected and brought home to feed the bullocks and she-buffaloes at night. When the jonna and sazza crops begin to

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approach maturity, it is a regular custom to pull out stunted and diseased plants, and to carry them home for fodder. In the same way, the small amount of jonna sown amongst the korra and other crops is cut for fodder. These sources yield a supply of green fodder for these classes of stock during at least six months of the year. During the remainder, they are dependent almost entirely on thedry straw of the cereals and 'pottu,' the latter being a mixture of the legumes of the pulses and other small refuse from the threshing floors, which is usually stored either separately or mixed with korra and arika straw.

The necessity for feeding cattle well is recognised in the proverb:

'Manishiki unnadi pushti	'Property is the strength of a man;
Pasarániki tinnadi pushti'	Food of a beast;

so that besides the fodders alluded to, every ryot endeavours to give his tilling cattle some artificial food. This is usually horse-gram from April to June and cotton-seed later in the year, when the hot weather is over. The grain of jonna and korra are also used in places where the cotton-seed is not easily obtainable, or sometimes in addition. The richer ryots give artificial food more or less all the year round, the poorer only during the cultivating season. The amount of horse-gram allowed daily to a Nellore bullock is about 3 lb., half that quantity being given to country-bred bullocks or young bulls. It is pounded and soaked in water and given at night. In the Cumbum taluk, jonna often takes the place of horse-gram. When cotton-seed is used, it also is pounded and soaked and often given greatly diluted with water. About 6 lb. of cotton-seed are given to a Nellore and half that quantity to less valuable bullocks. During the hot weather, if horse-gram is not available, the cotton-seed is always given in the form of a thin gruel, and the coarse parts are reserved for the she-buffaloes. The grain of korra appears rather to be used as an appetiser than as a special food. It is prepared by husking and grinding it in the morning and then soaking till night when it is again pounded and worked up into balls of paste. Only 1 or 2 lb. of this grain is given daily. On the whole, the tilling cattle are as well fed as the ryot's means will allow, and they are fed on the produce of his lands.

The working cattle and she-buffaloes are usually watered at night at least in the house, at a trough into which all the water used for household purposes drains. At the bottom of the trough the cotton-seed is placed, and the water used to dilute it is that which has already been used in washing grain for consumption, any edible refuse being added, and the whole mixed up together. The cattle, which only drink from the surface, are served first, and then the buffaloes, which bury their noses under the water and eat up the coarser parts which have sunk to the bottom. Too frequently, however, bullocks and other stock are allowed to drink at any pool or puddle, and there the water often is particularly foul.

Usually whilst working and in going to and from the field, cattle are muzzled with a kind of basket-work muzzle made by their drivers or by the cow-boys from date leaves, or from a particular creeper, which is twined into breadths about $1\frac{1}{2}$ inches wide, and then woven into an open worked sort of basket.

From the time that the first fall of rain admits of useful field work until the whole of the crops are put in, the tilling cattle are pretty busily engaged, but not infrequently breaks of continued fine weather occur during this season, which put a stop to active field-work, and the cattle are then generally idle. From June to October, there is generally plenty of tillage in progress, although such operations cease earlier on the lighter soils. By this time the harvest of the earlier cereals has begun and is far advanced in some places. As soon as he can, the ryot proceeds to haul the straw to his stack-yard, the ears having been cut off previously in the case of the cholum crops, and already removed. The korra and arika are now threshed in the field and the straw carted home, or the whole plant is carted in and the grain threshed out in the stack-yard. Such work more or less occupies the tilling cattle till January or March according to the locality, which can be seen by reference to the crops raised in the different tracts. After that the cattle have but little to do except to exist. In some places they have to haul wood from the jungles to be stored for use in the rainy weather; in others, they may have some carting of produce to market to perform. The year may be divided, as far as the cattle are concerned, into three periods, one of 4 to 5 months' busy work, one of 3 to 5 months' easy work, and another of 3 to 5 months' little or no work. In some localities, after the harvest the cattle

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have some work at breaking up new land or clearing foul land with the *pedda madaka* as already described. During the time they are engaged on this heavy work, they are specially fed, and it is frequently asserted as the reason why more of the work is not done that the supply of fodder is short, and therefore the cattle cannot be fed as they should be whilst at such severe labor. Naturally the ryot pays first attention to his tilling cattle and when fodder runs short they are the last to suffer; the other stock may starve and die, but the ryot till the last will try to keep his tilling animal efficient. Consequently, the tilling cattle are generally in good condition, and in those cases where it is otherwise, the cause is usually old age. A working bullock will, with ordinary good fortune from disease and accident, last about 8 to 10 years; the country-bred bullocks last at least two years longer than the Nellores. Sore necks are seldom seen on the tilling cattle and there are few cases of lameness among them. The animals are not shod for field-work, but only when they are regularly employed on the 'made' roads.

Cows and Cattle-breeding.—The number of cows kept in any tract indicates very nearly the extent to which cattle-breeding is carried on there. It may be said broadly that in the black-cotton soil tracts the ryot, unless he be a wealthy man or a Brahmin, seldom keeps any cows. A few men in these tracts may own herds, but they are not kept in their villages. On or near the hills and in the Bellagal and Piápalle tracts, where there is a large extent of waste land, few ryots do not own cows, and the wealth of some men in this respect is great. Again, on and around the northern widening out of the Nallamalas near the Kistna, a considerable number of Lambádi cattle-breeders live, who own little besides their herds. The keeping of cows by the ryot is chiefly governed by his ability to feed them at little or no expense. Small fees are now being imposed for cattle grazed in State forests, but hitherto the cattle owner has practically been able to raise his stock at the expense of herding them only. Grazing of a sort is fairly abundant or very easily accessible in the Piápalle, North and South Erramala, Nannur, Atmakúr, Nallamala and Chaygalmarri tracts and in the whole of the eastern section of the district, except the Cumbum tract.

In general, it may be said that cows owned by the ryots are never milked, and are valued solely for the calves they produce; where, however, large herds of cows are kept, as for instance, by the Lambádies, they are milked once a-day, and the produce made into 'ghí;' but this is only done during the rains, when an abundance of fresh grass causes a more generous flow of milk than when the cows can only pick up a bare subsistence on the stubble of the arable or the parched and scanty herbage of the waste lands.

Although, however, the cow is valued for her progeny, she receives but little attention. Still less attention is paid to the sire, for the covering is generally left to chance and will of the herd-boys, or the strength and activity of the young immature bulls that run with the herd. Here, of course, natural selection and survival of the fittest come into play, but these agencies are scarcely likely to turn out the best draught cattle. No attempt is made, nor does the idea appear to exist of the possibility of breeding up to a more perfect type than comes by nature, nor to develop the valuable characteristics of the existing breeds to their utmost. The ryot in reference to stock does not appear to hold with the fact that, 'like produces like,' although there is a saying to the effect that :—

'Vittu vokati vésté chettu vokati moluchuná.' — 'If you sow one kind of seed will a plant of a different kind spring up? *i.e.*, what you sow you reap.'

Again, the principle of selection is clearly referred to in the saying :

'Tallini chúchi pillanu pádini chúchi barrenu tisukóvalenu.' — 'As you look at the mother before taking the daughter, so see how a buffalo milks before purchase.'

But, on the other hand, the following saying appears to set both the former ones at naught, and really describes the present state of things :—

'Ekkada kattité-némi, manamandaló yinité sari.' — 'What matters it whose the bull was? If the cow calves in our herd, it is all right.'

Tradition says that at one time special bulls were always kept for breeding purposes, but now such bulls are to be found with only a few owners of large herds of cows, such as the Lambádies and a few ryots. With the Lambádies, it does not

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appear that much selection is exercised in choosing the bulls: a wife brings with her as her dower a bull which remains lord of her husband's herd so long as he can, and after that, choice is made from amongst the more promising of the young bulls dropped in the herd. In the selection, however, more attention is paid to the hair marks the bull has than to his form or origin.

Where only a few cows are kept, they are sheltered in the ryot's house with his working cattle. When large herds are owned, they are usually, when in the villages, penned in open yards. The Lambádies never provide any shelter for their cows, but simply tie them up at night in rows in the open, moving their camps from place to place as may be convenient for them, spending their time between settlements in the jungles on the hills and camps in the plains after the harvest. In selecting their camp, these men have to look chiefly to the supply of water in the dry weather, but in the rains they think almost solely of the convenience for grazing.

Cows and young stock, under all circumstances, have to trust almost entirely to what they can pick up for their food. Occasionally they may get the refuse straw from the working cattle, but usually they have to graze for all they get. They are generally let out at about 7 or 8 A.M.; all the cows, &c., of a village being herded together in the charge of one or two boys, and only the owners of large herds of 50 head or more engaging a separate herdsman to take them to the grazing lands. In these herds, the cows and all other neat cattle, except the working bullocks, go out together. Amongst these are a number of young uncastrated bulls, able and willing to cover the cows, and continually doing themselves injury by running after them. Usually these herds remain out at pasture for the whole day, but occasionally, if near their villages, they return during the midday heat and go out again in the afternoon; if not, they are, if possible, driven under the shade of trees at midday. Where jungles are accessible, they are the grazing grounds, elsewhere the village waste is the common grazing ground, and it only affords a scanty subsistence. During the cultivating season, and whilst the crops are on the ground, the cows and young stock are often sent off, from those parts where there is little natural grazing, to the jungles on the hills. These jungles also form a great fodder reserve in times of scarcity for the cattle of the whole district. As the return is remote, the ryot does not consider it worth while to feed cows well. Their condition is, therefore, too often miserable.

Heifers usually take the bull in their fourth year only, their development being, under such adverse conditions as have been described, slow. After their first calf, the frequency with which cows breed depends chiefly on the abundance or otherwise of pasturage. They may drop a calf once in 12, 18, or 24 months, and breed for about 10 or 12 years. When a special bull is kept, he is allowed about fifty cows, and roams with the herd, covering the cows as they come in season. When no special bulls are kept, covering is entirely indiscriminate. No very distinct calving season is observable, but it appears that the greater number of calves is dropped either in May and June or September and October. The cows yield some milk for about six months after calving, but frequently it scarcely suffices to nourish the calves, and when drawn at all is only in the morning. The calves go out to pasture with their dams from their earliest days, but are tied up at night. They receive little or no attention, and manage to struggle on for existence as best they can. Young heifers receive no attention at all. Young bulls, when about three years old, are taken into the cattle shed and treated like the working cattle till they are castrated and yoked. The Lambádies sell off their young bulls when about a year old, and so keep their herds free from one fertile cause of degeneration common amongst the ordinary village herds.

She-buffaloes form, in many places, a great source of income, and are kept in large numbers. They are in special charge of the women of the family, who deal entirely with the ghi they produce. So much is this looked upon as a woman's work that the ryot either does not or affects not to know what number of she-buffaloes he possesses. These animals form part of the ryot's family as do his working cattle. They receive, as long as they are milking, even more care and attention. For three days after calving they are tied up and allowed no green fodder, but are given warm gruel made from jonna, with a little garlic added, and are washed daily with warm-water. Afterwards they are allowed daily about 4 or 5 lb. of cotton-seed, horse-gram, jonna or sazza ground soaked, and finally greatly diluted as already described, the food varying with the supply available, and are given such green fodder as may be available, grass being carefully collected for them. If green fodder is not to be had, they

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are given korra straw and 'pottu.' A good supply of cotton-seed is greatly desired for feeding these milch buffaloes. The necessity for taking great care of them is shown by the proverb which says :

'Pádipasaram passibidda vokatiga chúdu valayanu.' — 'Milch cows and children of tender years need similar care.'

The difficulties that the owners sometimes have, owing to neglect in training their cows to give milk when their calves have been removed, is shown in the saying that.

'Dúda kudisténé gáni ávu chépadu.' — 'Unless the calf sucks, the cow will not let down her milk.'

The practice of teaching cows to milk without their calves is looked upon as cruel, or as the saying is—

'Dúda léni pádi dukhapu pádi.' — 'It is distressing to see the milking of a cow which has lost her calf.'

A good buffalo will give milk for about nine months after calving. They are milked twice a-day for six months, and yield more in the morning than at night, but during the last three months, are only milked once a-day. Two seers a-day is a fair yield, and from this 15 to 22 tolahs of butter are said to be obtainable, and from 32 tolahs of butter 22 tolahs of ghi. Cotton-seed is said to give the best quality and largest amount of ghi, whilst jonna gives thicker milk but not so much ghi. Great fear of the 'evil eye' prevails amongst the people as regards their she-buffaloes, and various incantations and performances are gone through in order to avert the effects of such a calamity.

Two breeds of buffaloes are recognised, but only one is commonly bred. They are—(1) the white, (2) the black. The former are not common, and are usually considered delicate. The latter are good milkers and the better butter-producers. In looking for a milch buffalo, the ryot likes a dark skin, short legs, thin thighs, an udder that is not soft or flabby with the teats soft and well set.

The buffalo begins to breed after its third year, and good ones drop a calf annually ; others not quite so often. Most of the calves are dropped about September. After calving, the whole of the *colostrum* is not given to the calf, part being drawn off. Before being allowed to suck on the first three days after their birth, the calves are given a piece of cotton soaked in castor oil to suck, and from the fourth day till they begin to eat grass are often given a few grains of margosa-seed in butter to destroy worms. The calves are very delicate and considerable numbers of them die before they are a year old ; after that age, they gradually become more and more hardy. They are usually kept tied up in the houses until they are fully able to graze.

This stock is, therefore, on the whole, carefully looked after, the greatest evil in the system of management being the custom which universally exists of turning out the milch buffaloes in the early morning to act as scavengers all round the village precincts, for as the saying goes :

'Barre amédhyamu thinte pálu cheduthunnava.' — 'Though a she-buffalo eat filth, will the milk be spoilt ?'

After performing this disgusting work, they come home, and, after being watered, are foddered with green fodder or grass if available, and thus fed before being milked. During the day they go out for a time to graze, but are always herded separately from the neat cattle, and are seldom sent to the regular pasture grounds, unless there be abundance of grass. Dry and young buffaloes are not specially fed, but are housed at night and get some straw. If a heifer does not take the bull properly, she is usually put to work until she does. It is rare that any special bulls are kept for breeding purposes, unless it be one that has been dedicated to some god. No more care is taken in this respect than is customary with neat cattle.

Sheep and Goats.—These are either owned by shepherds, who live almost entirely on the produce of their flocks, or in small flocks by the ordinary ryots. The latter occasionally keep a few sheep or goats about their houses, but more frequently they club their flocks together and keep them on the grazing grounds in charge of hired shepherds. The former obtain a small quantity of wool from their sheep, and also a little milk from both sheep and goats, which is made into ghi. They are further able to obtain their food from the ryots as a recompense for folding their flocks on cultivated land at night.

Sheep almost everywhere out-number the goats. They are usually of one or other of two breeds, the red or the black, but in a few places the long-legged, hairy

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and tasselled Nellore sheep is met with, especially in the eastern section of the district. The red sheep is a small, short-pointed animal, which is only valuable for mutton and manuring. The black, in addition to these sources of income, produces a small amount of wool. The latter is also believed to produce a better quality of mutton.

Goats are usually of the long-legged, black breed commonly bred in Southern India. They do not show much sign of being good milkers. Occasionally, near such towns as Kurnool and Cumbum, a few goats of what is known as the 'Kanchi' breed are met with. They are white, shorter-legged and less agile than the black breed, and have broader backs and more arched barrels. They give more milk, and usually drop two kids at a birth, instead of one as the black breed usually does. Goats and sheep are mixed up in all the shepherd's flocks, but the former are more frequently taken to the houses at night.

No shelter is provided for either sheep or goats, and the loss of life during bad weather is often considerable. Some attempt, however, is made to shelter very young lambs, which are not sent off to graze with the flocks but kept under coops. No special food or fodder is ever provided for this kind of live-stock: they have to depend entirely on what they can pick up for subsistence. When the arable land is under crop, the flocks are sent off to the hills and wastes to graze, and are kept there till after harvest, when they are brought back and grazed on the stubbles. The time of year during which they are most used for 'sheep-folding' is the early part of the cultivating season. During the dry weather they have to move away from the more closely-cultivated parts of the district, to where waste land is abundant; if such land is available near the villages of their owners, more use is made of them for manuring purposes, as they can then be brought back to the arable lands at night. Except in the Dupád tract, no sign of made folds has been observed, but there frequently simple folds, in the form of an enclosure made of dry thorns, are made outside the villages, and in them the flocks are penned at night. These are usually placed in waste land, high and dry spots being selected, and the manure dropped in them at night is cleaned out about once a-week, and then carried off to the fields to be used as manure. Elsewhere no close-folding at all is followed, and consequently the manuring of a field by sheep is carried out in a very rough, ready and irregular fashion. All flocks are guarded at night by a few shepherds,—one man being enough for about 150 head,—and numerous dogs, which are of a superior breed and well fed. The ryot supplies food for the dogs as well as the shepherds when a flock spends the night on his land. The usual grazing available for the flocks is poor, and during the dry weather limited in quantity in many parts, but everywhere at that season the goat is better off than the sheep owing to its feeding so much more on leaves and twigs of trees, which do not suffer so soon from drought as does the ordinary herbage.

In breeding some little care is shown. Each year a few rams and buck goats are specially selected for breeding, and the remainder, after being castrated by mulling with the hand, are gradually sold off. The sheep only lamb once a-year, usually about December or January; but the goats kid twice. For a few days after being born the kids and lambs are not taken out to graze. As long as possible, the ewes and goats are milked and the produce made into ghi. In some places the supply comes in very conveniently to meet household requirements when the buffaloes run dry. In others the ghi is sold ostensibly as buffalo ghi. As the sheep are so dependent on natural grazing, it frequently happens that a failure of the early showers causes great loss of lambs.

The sheep, that is, the black breed, are shorn twice a-year, usually about January or February and July or August, and yield about 10 tolahs weight of wool at a clipping. This produce is disposed of in two ways; for instance, the buyer may pay four rupees for the wool of 100 sheep, which he shears himself, or in Nandikótkur where a good deal of *cumbli* weaving goes on, the owners pay for the shearing, and in exchange for the wool of 200 sheep receive back a cumbly. These cumblies are of particularly good quality. The only use to which the hair of the 'red' sheep is put is to burn it with some *bratties* in the fields during eclipses. These are burnt in the corner of the field from which the wind is blowing, and the smoke spreading over it is believed to prevent insect attacks and diseases.

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Swine—are kept in all villages by certain classes of the people, and are the dirtiest of scavengers, and looked upon by the mass of the population with horror. *Poultry* are kept by every one more or less, and in many places fighting cocks are reared specially to furnish sport for the rural population.

Diseases.—No accurate information exists as to the extent to which disease carries off live-stock, but it may be said that foot and mouth disease usually breaks out during the dry weather, but seldom does much harm, except to very young and to old and decrepit animals. It, of course, greatly reduces the condition of the animals attacked, but causes no serious losses. Rinderpest also appears in most years, and carries off more than half the animals attacked. This is the most serious cause of loss amongst cattle; whilst, among sheep and goats, sheep-pox also frequently causes great loss. Various forms of anthrax cause a good many deaths annually, but these diseases are so mysterious in their forms, and often appear under so many names that it is difficult to arrive at any clear determination of the extent to which they prevail. Dysentery, catarrh and tympanitis are common ailments. The chief sources of loss or trouble are, however, the four epizootic diseases first named. Prevention does not come within the ideas of the ryot. In a general way he likes the principle of segregation, in so far as an infected village is more or less tabooed; but in his own village, sick and healthy live and graze together, and, finally, the carcasses of beasts dead of disease are thrown outside the village on some waste spot near, the hides being taken by chucklers as their own perquisite; a good deal of the flesh being eaten by them also. The spots where these carcasses are thrown are often close to the village wells or to ravines draining into the main drinking-water supply sources. When disease is severe the ryots often dedicate a bull-calf or young buffalo bull to the goddess who is supposed to be wreaking her vengeance on them by the destruction of their cattle, and these sacred bulls become in course of time the village sires, but being pampered and fat soon lose their chance of covering many cows.

Fodders and grazing reserves.—The extent to which the ryot usually provides straw as fodder or collects grass from the fields and waste lands for his stock has already been noted; but this description of fodder may be said to be provided only for tilling cattle and milch buffaloes, and not invariably for the latter, for if grass is at all abundant, the she-buffalo depends chiefly on grazing. It is, therefore, of great importance, in considering the sources from which the breeding stock can be fed, to show the areas of available grazing lands in different parts of the district. This is indicated in the following abstract, poramboke is included, but though of some, is seldom of great value:—

Tracts.	Total area.	Poramboke.	Village forests and grazing reserves.	Unoccupied arable land.	Total grazing.	
					Area.	Per cent. of gross area.
	ACRES.	ACRES.	ACRES.	ACRES.	ACRES.	
Kurnool	167,286	17,002	6,385	9,310	32,697	20
Bellagal	355,160	24,496	38,989	63,681	128,166	36
Hosúr	74,847	4,309	1,311	12,514	18,134	24
Piápalle	417,069	51,593	70,471	105,257	227,321	54
South Erramala	126,112	53,523	10,830	16,489	80,842	64
North Erramala	256,950	85,137	46,253	30,943	162,333	63
Nannur	85,672	15,964	8,207	5,490	29,661	35
Nandikótkur	335,036	34,136	34,381	63,003	131,520	39
Atmakúr	175,809	15,258	49,979	60,883	126,120	71
Nallamala	210,132	16,849	71,661	27,714	116,224	55
Kundér	423,810	33,441	26,576	13,578	73,595	17
Owk	71,661	8,162	13,914	6,111	28,187	39
Chavgalmarri	111,923	6,010	24,651	11,867	42,528	38
Sagilér	111,423	14,321	20,459	15,894	50,674	45
Gundlakamma	125,762	18,397	12,403	17,559	48,359	38
Basinepalle	83,761	7,000	37,283	5,152	49,435	59
Cumbum	13,748	3,506	832	914	5,252	38
Vémulakota	50,872	4,952	4,218	9,094	18,264	36
Dupád	320,081	43,637	41,350	79,118	164,105	51
Total ..	3,517,114	457,693	521,153	554,571	1,533,417	44

All the lands referred to in the table are included within the surveyed areas of the villages in the tracts. Besides this in the Erramala tracts, there are numerous blocks of unsurveyed areas which also serve, in some measure, as grazing reserves,

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and the tracts adjoining the Nallamalas on the east and west have comparatively easy access to the jungles on these hills, whither cattle can be sent to graze on the payment of a small fee as has been already noted. The value of these jungles has already been alluded to. The tracts, where breeding of neat cattle is at all extensively practised, in which the ryots have to depend almost entirely on the village grazing reserves and unoccupied waste, are Piápalle and Bellagal. In the former, 42 per cent. of the total area is available for grazing, besides 12 per cent. classed as poramboke; and in the latter 29 per cent. is available for grazing and 7 per cent. poramboke. In the Nandikótkur tract, over all of which, except one corner, the breeding cattle are also considerably dependent on the same resources, 39 per cent. of the total area, of which 10 per cent. is poramboke, is available, and the stock can easily be driven to the Nallamala jungles if desired. In the Atmakúr and South Erramala tracts, in both of which the stock maintained is large, 71 and 64 per cent. of the total area is available for grazing, and, although in the latter nearly half is classed as poramboke, this high proportion fosters cattle-breeding, which is also assisted, as already noted, by the proximity of the Nallamalas in the one case, and in the other by the existence of unsurveyed blocks adjoining the villages. In both, it is probable that the forest settlement may place restrictions on the resources that the ryot has long trusted to for foddering his stock. In the Dupád tract, where the largest number of stock is maintained, 51 per cent. of the total area is open for grazing, whilst in the Kurnool, Hosúr and Kundér tracts it varies from 17 to 24 per cent. only. In the other tracts of the eastern section, excepting Cumbum, which may be excluded on account of its peculiar circumstances, from 36 to 59 per cent. of the total area is available for grazing, and the proportion of poramboke is in no case high; but the extremely high proportion of village forests in the Basinepalle tract is due to the fact that the uncultivated land in shrotriem villages could not be classed under any other head. The North Erramala tract, although it contains nearly as large a proportion of total grazing reserve as the southern tract, has less classed as poramboke and a smaller proportionate stock. In the Nallamala tract, the area already selected for village forests is very large, and the total proportion available for grazing much higher than the average in the other tracts where breeding is of any considerable importance. The quality of the grazing in the tracts depends chiefly on the soil and rainfall; thus it is poor in the Bellagal, Piápalle, Owk, Nannur, and the greater part of the Nandikótkur tract, and in the eastern section of the district generally, but is good in all the tracts along the foot of the Nallamala on the west, and inferior on the Erramala; being generally much poorer in the black-cotton soil tracts than elsewhere.

In the marginal table the number of stock kept is shown under the two sub-heads, cattle and sheep, and from it, it will be noticed that east of the Nallamalas the stock is far heavier than on the west of those hills. It will be seen that every 100 acres of land on the average supports 15 cattle (full grown) and 23 sheep or goats. The number supported in proportion to the grazing area indicates in some degree the facilities which exist for feeding cattle for nothing, or at very little expense; but, as a matter of fact, a large proportion of the stock kept in the last six tracts goes to and from the hill jungles to graze and is not dependent on the area within the surveyed limits. The same holds true in part of the cattle of the Erramala (2), Atmakúr, Nallamala, and Chaygalmarri tracts. Considering the facilities which exist in or near them, the most lightlystocked are the Nallamala and Atmakúr tracts, whilst the north Erramala is not much more heavily taxed in this respect.

Tract.	Stock per 100 acres of			
	Total area.		Grazing area.	
	Cattle.	Sheep and Goats.	Cattle.	Sheep and Goats.
Kurnool	12	35	62	178
Bellagal	12	21	33	59
Hosúr	9	15	39	60
Piápalle	13	18	23	33
South Erramala ..	16	23	25	35
North Erramala ..	12	15	19	24
Nannur	15	23	42	67
Nandikótkur ..	14	20	36	51
Atmakúr	11	9	15	12
Nallamala	12	11	21	20
Kundér	14	17	82	97
Owk	15	33	39	83
Chaygalmarri ..	15	17	39	44
Sagilér	24	25	53	55
Gundlakamma ..	26	32	68	84
Basinepalle	15	30	26	51
Cumbum	35	24	93	63
Vemulakota ..	18	46	50	127
Dupád	23	54	44	105
District average ..	15	23	34	53

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The Dead-stock of the ryot has nearly all been enumerated and described already when dealing with the question of tillages. The number of ploughs kept has already been noted, but this, in many places, does not equal the number of pairs of tilling cattle kept, and especially will this be noted when it is remembered that ploughs of different sizes are kept for dry and for wet land. The implement of tillage, which is more particularly universally owned, is the *guntaka* or scuffle. Of these, one is usually owned for every pair of tilling cattle the ryot possesses. Often also a man who owns only a single bullock owns a scuffle, so that altogether the number of these implements rather exceeds the number of pairs of cattle there are to draw them. The number of drills has been shown to vary from 1 for 18 to 1 for 57 acres under cultivation, and the number of bullock-hoes will equal the number of *guntaka*. This completes the ordinary field implements, and, according to the statistics embodied in this paper, it will be seen that for every 100 acres of cultivated land, the ryots own from three to seven ploughs and rather more guntakas, 2 to 5 drills of one sort or another and about 5 sets of bullock-hoes.

The only other dead-stock, besides a few rough tools, baskets, &c., that is owned by the ryot are carts, sugar-mills and indigo-vats, unless wells and water-lifts be included under this heading. Carts are kept in varying numbers in different parts of the district, *e.g.*, there is one for every 14 acres in the Cumbum, and only one for 115 acres in the Hosúr tract. In the Atmakúr tract, and about the towns of Kurnool, Nandyál and Cumbum, the number of carts kept is forced up by large numbers not used solely to meet the wants of the ryots. Here and there in other places a few traders may own carts. In some parts of the district, and especially amongst the quarry-men and wood-cutters, the old solid-wheeled cart is often to be met with. Solid stone-wheeled carts are also to be seen occasionally, but usually the carts in use do not present any very peculiar features, except that the wheels are rather small, and the body of the cart very short and fixed on clumsily to the axle. Often also a regular pole is not found, but two converging poles are attached to the axle-tree, and to them the yoke is tied. Generally speaking, the carts are not so well built and are smaller than in the southern districts. The cost of a cart usually varies from Rs. 35 to 45, and it can be used for various purposes; with a basket-body, it serves as a manure cart; with a frame work to widen it, as a harvest cart on which loads of fair size are carried; or with a top, as a cart for road work or travel. The great fault of the ordinary carts is the absence of a firm and well-made bed, the small length of the body in proportion to the size of the wheels and small size. By the ryot, of course, the cart is chiefly used as a manure or harvest cart, though occasionally he travels in it to neighbouring villages, or hauls off his surplus produce in it to market.

Acres per Cart.		Acres per Cart.	
Tract.	Number.	Tract.	Number.
Kurnool	83	Kundér ..	51
Bellagal	98	Owk	42
Hosúr	115	Chaygalmarri ..	44
Piápalle	87	Sagilér	41
South Erramala ..	50	Gundlakamma ..	41
North Erramala ..	49	Basinepalle ..	48
Nannur	60	Cumbum ..	14
Nandikótkur ..	54	Vémulakota ..	41
Atmakúr	46	Dupád	43
Nallamala ..	37		

Carts are a tolerably common possession, but the corn-mill is an almost universal one. These are made of two discs of the hard grits found in the Erramalas and cost 2 or 3 rupees each. More general still is the spindle, to be seen in work in all houses, and costing about Rs. 2-8-0. The weavers, of course, have the implements of their trade, but in the eastern section of the district, it is not uncommon to come across *Mádiga* weavers also. The hand-tools are hand-hoes, grass-knives, reaping-knives, manure-forks, rakes, mamotties, pick-axes, axes, bill-hooks, and crowbars; whilst, where cotton is grown, the ordinary Indian roller-gin is to be seen fast at work in most houses. The latter costs about Rs. 1–4–0, and deals with the native cotton efficiently enough.

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Indigo-vats are to be found only to any considerable number as noted in the margin, the total number in the district being 1,297. They are usually erected in pairs of sets and generally owned by the ryots, though in some places dealers in indigo own them. There is nothing peculiar, as far as was observed, in the vats in use; and each set consists of two vats, a steeping and an aërating vat, and a settling cistern. Besides these each factory has its copper boiler and a draining table, and attached to it a well to provide the water for steeping. The cost of such a factory is under Rs. 1,000, and the cost of working it about Rs. 5 per diem. These factories are commonly leased out on a daily hire of Rs. 10-8-0.

Tract.	No.	Tract.	No.
Kurnool ..	51	Kundér ..	458
Bellagal ..	43	Chaygalmarri ..	83
Nannur ..	36	Sagilér ..	51
Nandikótkur ..	210	Gundlakamma	78
Nallamala ..	38	Dupád ..	87

Sugar-mills are only to be met with in a few places, the chief of which are Cumbum, Nandyál and Kalwa, and are of the simple vertical double roller type, worked by a pair of screws, common in South India. The length of the rollers is under two feet, and the diameter a little over one. The prime cost of a mill is about Rs. 40; and it requires about Rs. 10 for annual repairs. Besides this, a daily allowance of six seers of jaggery and a few canes is made to the village carpenter and smith for their continued attention to the mill during the working season. With the mill, a pan for evaporating is also required. These pans cost about the same as a mill and last about ten years. The daily hire for a mill and pan is about a rupee. The cost of working the mill for 24 hours is about Rs. 3–8–0, during which time six pans of juice will be evaporated, and will produce about 12 rupees worth of jaggery, and, after allowing for the cost of fuel and other charges, the jaggery can only be sold at about cost-price, allowing a normal rate for the cane.

Tract.	No.	Tract.	No.
North Erramala ..	23	Kundér ..	5
Nannur	5	Cumbum ..	60
Nallamala ..	11		

CHAPTER IX.

THE LAND AND THE PEOPLE.

Land and Tenures.—The total area of land in the district which is available for cultivation has already been noted as 2,613,770 acres. Of this area 987,966 acres are classified as Inam lands, *i.e.*, lands held on favorable tenures, the remainder, 62 per cent., being Government land occupied or available for occupation on the ryotwari system. The Inam land consists of Shrotriem villages, that is, whole villages granted in former days on favorable conditions, which only pay quit-rent to Government; and of minor Inams, which are generally lands situated in Government villages liable to similar rents. The whole of the area shown in the marginal table under Minor Inams, however, is not occupied, as some portion of it consists of resumed village service Inam lands. It will be seen that only a little over two per cent. of the total arable area is classed as irrigable. Of this, 39 per cent. lies in the eastern section of the district, where over 4 per cent. of the arable area is classed as wet. The remainder of the arable land is entirely dependent on falling rain.

Class.	Dry.	Wet.	Total.	Per cent.
	Acs.	Acs.	Acs.	
Government ..	1,591,921	33,883	1,625,804	62
Minor inams ..	891,613	20,138	911,751	35
Shrotriem villages.	75,104	1,111	76,215	3
Total ..	2,558,638	55,132	2,613,770	100
Percentage ..	97·9	2·1	100	..

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In fasli 1296 (1886-87) the area of land in occupation was as shown in the margin, only 70 per cent. of the available Government lands being in occupation. The distribution and quality of this land is shown more fully below, but here it may be said that whilst the average rate of assessment per acre for the occupied land is Rs. 1–1–2, that of the unoccupied area is only 11 annas. As to the inam lands, only 91 per cent. of the total area is at present occupied, and most of this land belongs to the category of minor inams. The total area remaining for future development is thus 572,986 acres; but the question at once arises how far it is desirable to bring this area under the plough, as it at present forms, to a great extent, the grazing ground for stock and the reserve capital on which the ryots work owing to the facilities given for relinquishing parts of their holdings, and taking up new land. The reply must depend very much on where the available land lies. Information is not available in detail regarding the occupation of inam lands.

Class.	Dry.	Wet.	Total.	Per cent. of arable area.
	ACS.	ACS.	ACS.	
Government ..	1,107,627	27,133	1,134,760	70
Minor inams ..	810,852	18,957	829,809	91
Shrotriem villages.	75,104	1,111	76,215	100
Total ..	1,993,583	47,201	2,040,784	78
Percentage of arable area.	78	85·6	78	..

Ryotwari holdings.—According to the most recent returns, *i.e.*, those for fasli 1296 (1886-87), the total number of holdings or pattas was 96,183, paying an assessment of Rs. 12,16,185 on a total area of 1,134,760 acres, that is, the average holding is nearly 12 acres, paying an average assessment of Rs. 12–10–4. Of these holdings 30 per cent. of the number, paying 34 per cent. of the gross assessment, were on joint pattas, held by 64,407 registered ryots, the holding under each joint patta having about two co-sharers on the average: most of these probably also had pattas in their own names in addition, so that the real average holding per ryot is not determinable from these figures; the large proportion of inam land in the district must also be remembered. During the past twenty years, however, there has been a great increase in the proportion of joint to single pattas, for in 1866-67 only 19·7 per cent. of the total number, paying 19 per cent. of the gross assessment, were joint pattas. This is shown in the marginal abstract, from which it will be seen that whilst the joint pattas, after a long steady increase, are now 71 per cent. more in number than they were 20 years ago, the famine had apparently no effect in checking the increase, which is probably due to the operation of the Hindu law of sub-division and to the necessity which has been imposed on the ryots of securing a record of their coparcenary rights in joint holdings. The largest proportion of joint pattas is to be found in the eastern and the smallest in the western section of the district.

Years.	Single pattas.		Joint pattas.	
	Number.	Assessment.	Number.	Assessment.
		RS.		RS.
1866-67 ..	68,900	10,56,432	16,937	2,48,402
1871-72 ..	67,667	9,65,981	17,923	2,83,126
1876-77 ..	56,088	5,26,854	19,436	2,10,577
1881-82 ..	55,936	7,40,052	23,080	3,55,030
1886-87 ..	67,172	8,03,519	29,011	4,12,666

In the following statement the number and percentage of the pattas and the assessment in each class, according to the amounts paid, are shown for two periods—the latest year and for 20 years earlier:

Class, *i.e.*, pattas paying.	Fasli 1276 (1866-67).					Fasli 1296 (1886-87).				
	Number.	Per cent. of total.	Assessment.	Per cent. of total.	Average assessment per patta.	Number.	Per cent. of total.	Assessment.	Per cent. of total.	Average assessment per patta.
			RS.		RS. A. P.			RS.		RS. A. P.
Under Rs. 10 ..	50,971	59·38	2,33,099	17·86	4 9 2	60,115	62·50	2,51,421	20·68	4 2 11
From Rs. 10 to 30.	24,168	28·16	3,85,442	29·53	15 15 2	25,987	27·02	3,97,589	32·69	15 4 10
,, ,, 30 to 50.	5,785	6·74	2,11,203	16·19	36 8 2	5,813	6·04	1,95,661	16·09	33 10 6
,, ,, 50 to 100.	3,423	3·99	2,33,002	17·86	68 1 1	3,140	3·27	1,94,982	16·03	62 1 6
,, ,, 100 to 250.	1,316	1·53	1,81,308	13·90	137 12 4	1,016	1·06	1,35,594	11·14	133 7 4
,, ,, 250 to 500.	157	·18	49,756	3·81	316 14 8	97	·10	30,741	2·53	316 14 8
,, ,, 500 to 1,000.	16	·02	10,018	·77	626 2 0	13	·01	8,074	·66	621 1 3
Above 1,000 ..	1	..	1,006	·08	1,006 0 0	2	..	2,123	·18	1,061 8 0
Total ..	85,837	100	13,04,834	100	15 3 3	96,183	100	12,16,185	100	12 10 4

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The classification is not entirely trustworthy, but it is sufficiently accurate to indicate the general state of affairs. Over one-fifth of the land-revenue is gathered up in amounts of a little over four rupees each. Nearly two-thirds of the holdings are assessed at about that sum. Of the holdings under this, the lowest class, nearly 17,000 are on joint pattas with 36,318 ryots. The remainder are on single pattas. Assuming the net income from the land to equal the assessment paid on it, the mass of the ryots have an annual income of about Rs. 4. This is sufficient to show the extreme poverty of the class, although no doubt they labor for themselves to make this income, and for others to eke it out. In making the settlement assessments, hire of labor to the extent of about one and one-fifth of the assessment is allowed for so that the gross earnings of this class of ryots are only about Rs. 9 per annum,—not enough to feed them. On the same assumption only one per cent. of the holdings give an income of Rs. 133, and there are only 112 holdings giving larger net incomes. The average net income of all classes is only about two rupees a month.

In the twenty years referred to in the figures given above, whilst there has been a very large increase in the number of pattas, the proportion under the lower classes has considerably increased; the general tendency of events is more clearly brought out in the following abstract of the number of pattas under each class, which existed at different periods:

Class, *i.e.*, pattas paying	Number of pattas existing in					Percentage of increase or decrease in latest	
	1866-67.	1871-72.	1876-77.	1881-82.	1886-87.	20 years.	15 years.
Under Rs. 10	50,971	51,834	52,993	48,650	60,115	+ 18·0	+ 16·0
From ,, 10 to 30 ..	24,168	23,016	15,284	20,716	25,987	+ 7·5	+ 12·9
,, ,, 30 to 50 ..	5,785	5,833	3,812	4,935	5,813	+ ·5	— ·3
,, ,, 50 to 100 ..	3,423	3,433	2,354	2,995	3,140	— 8·3	— 8·5
,, ,, 100 to 250 ..	1,316	1,308	953	1,599	1,016	— 22·8	— 22·3
,, ,, 250 to 500 ..	157	151	119	112	97	— 38·2	— 35·8
,, ,, 500 to 1,000 ..	16	15	9	9	13	— 18·7	— 13·3
Above ,, 1,000	1	..	..	..	2	+ 100·	..
Total ..	85,837	85,590	75,524	79,016	96,183	+ 12·1	+ 12·4

The figures for the period 1876-77 may be rejected, as they were drawn up during the famine, and probably the disorganisation of the ordinary administration caused by that event rendered the returns more inaccurate than usual. The extraordinary number of pattas in the class of from 100 to 250 rupees for the next period (1881-82) points to great error in the returns for that year also. The general indication of the figures is that the number of petty holdings is steadily increasing, whilst the larger ones are being broken up. The effects of the famine are not at all clear, but it appears that the larger pattadars suffered more than the smaller; for, in the matter of remissions, they were treated far less leniently in faslis 1276-77 than the smaller holders, as it was considered that they were in a better position to meet their obligations. The cause for the appearance of two pattas paying over Rs. 1,000 in the latest year is not apparent, unless it be that two large holders have added considerably to their occupation. One of them is to be found in the Nandikótkur and the other in the Nandyál taluk. For 20 years no such holding had existed in the district. The large holdings almost all exist in the central section of the district and the largest proportions of the very small holdings are to be found in the eastern section of the district and in Pattikonda, but the general distribution, as well as the size and assessment of the holdings are dealt with more fully below. Here it is enough to note that there has been a

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steady falling off during the last 25 years in both the average area and assessment of the holdings, the changes during the last five years being noted in the margin; and that the smallest average is found in the eastern and the largest in the western section. Taking these figures as a guide, it will be noted that the gross average income from the holdings is about Rs. 28–7–3 per annum. To this, of course, must be added the value of the inam lands held by the same people.

Average.	In the year	
	1881-82.	1886-87.
	Rs. A. P.	Rs. A. P.
Assessment	13 13 9	12 10 4
Extent, acres	12·2	11·8

The value of land.—This can only be determined roughly by the prices registered for lands sold in recent years. A statement showing the areas sold is given in appendix XV, and the total area registered as sold in each of five years is noted on the margin. There are fourteen registration circles in the district, of which three were opened in 1885 only, the more important of them being Sirvél, Koilkuntla, Nandyál, Kurnool and Cumbum as far as land sales are concerned. In the following abstract the average areas of land registered annually as sold and the price realised, as far as details are available, are shown for each circle. In cases where land has been sold with a house, indigo-vat, stock, &c., or where the land referred to in the deed registered was situated in more than one circle or district, the area only has been noted as the price recorded in such cases refers to the whole transaction, and not to the particular area under reference.

Year.	Area. ACRES.
1882	16,540·06
1883	12,888·28
1884	13,496·54
1885	13,771·91
1886	14,629·55

Circles.	Average area sold for which information is complete.				Average area sold for which particulars are incomplete.	Average total area sold per annum.	Years during which transactions referred to were registered.
	Number of transactions.	Acres.	Total price realised.	Price per acre.			
			Rs. A. P.	Rs. A. P.	Acres.	Acres.	
Kurnool	101	1,309·68	14,044 13 7	10 11 7	669·12	1,978·80	1882-86
Rámallakót ..	53	447·83	5,056 4 0	11 4 8	101·10	548·93	1885-86
Pattikonda ..	55	683·17	4,692 15 2	6 13 11	547·85	1,231·02	1882-86
Piápalle	28	204·42	2,478 3 4	12 2 0	82·66	287·08	1882-86
Total ..	237	2,645·10	26,272 4 1	Rs. 9·93	1,400·73	4,045·83	..
Koilkuntla ..	224	1,288·33	24,100 13 4	18 11 4	618·93	1,907·26	1882-86
Owk	90	415·36	9,935 10 0	23 14 9	326·27	741·63	1885-86
Sirvél	202	1,398·31	19,788 12 4	14 2 5	683·69	2,082·00	1882-86
Nandyál	211	1,023·19	22,889 6 8	22 5 11	322·23	1,345·42	1882-86
Atmakúr	51	397·00	4,619 9 1	11 10 2	156·57	553·57	1885-86
Nandikótkur ..	129	1,208·71	15,503 7 7	12 13 3	532·80	1,741·51	1882-86
Kalwa	71	441·73	7,969 0 5	18 0 8	166·00	607·73	1882-86
Total ..	978	6,172·63	1,04,806 11 5	Rs. 16·98	2,806·49	8,979·12	..
Márkápur	102	404·42	6,452 3 8	15 15 3	199·74	604·16	1882-86
Cumbum	279	848·28	19,921 3 4	23 7 9	173·33	1,021·61	1882-86
Giddalur	320	842·16	18,000 6 2	21 6 0	41·33	883·49	1885-86
Total ..	701	2,094·86	44,373 13 2	Rs. 21·19	414·40	2,509·26	..
District Total ..	1,916	10,912·59	1,75,452 12 8	Rs. 16·08	4,621·62	15,534·21	..

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According to these figures the average value of land, irrespective of any improvements or buildings, &c., is 16 rupees per acre. The present average assessment per acre is Rs. 1·07, so that if these figures may be compared, the sale value of land is about 14 to 15 years' purchase. As a general average, it appears that this result may be taken as a fair representation, as long as it is remembered that the poorest lands have practically no saleable value.*

The figures show that in an ordinary year at present over fifteen thousand acres of land change hands by sales that are registered, and if the averages as derived from the sales for which full particulars are given, be taken, this represents a value of nearly two-and-a-half lakhs of rupees. The land appears to be sold in parcels of about five or six acres each; the average size being greatest in the western section of the district where it exceeds ten acres, and least in the eastern section where it is less than three acres. The value of land follows nearly the same order of distribution. The poorest land is in the western and the most valuable in the eastern. In the latter the value per acre is probably higher on account both of the pressure of population and of the superior water-supply. The most valuable dry land is naturally found in the Nandyál valley, where it appears to be worth about 18 to 20 rupees an acre; the least valuable is in the Pattikonda taluk, where so much is of the poorest character. On the whole, the sale value of land may be taken to vary very much as the assessment does, and it is probable that for most descriptions it is not worth more than 10 or 12 years' purchase, and in the poorest classes nothing at the present time when the ryot can throw up one piece and lease another just as it suits his convenience or fancy.

Means of support.—In the following table particulars are given tractwar on several points relating to the conditions of tenure found in them; but it must be remembered that in this table an attempt has been made to exclude from the minor inams the area which has been resumed, and is liable to full assessment and available for occupation under the ordinary rules. This area has been included under the heading of Government land, and the area selected to form village forests and grazing reserves has been excluded from the arable area: the diagram

* The average area and value of the wet land included in the sales for which full particulars available was—

Circles.	Number of transactions.	Acres.	Total price realised.	Price per acre.	Years for which particulars available.
			Rs. A. P.	Rs. A. P.	
Kurnool	3	5·35	252 8 0	47 3 2	1882–85
Rámallakot	1	1·81	100 0 0	55 4 0	1885-86
Pattikonda	No particulars.				
Pápalle	4	10·96	470 2 2	42 14 4	1882–86
Koilkuntla	14	18·91	1,024 2 1	54 2 6	1882–86
Owk	18	21·82	1,312 14 0	60 2 8	1885-86
Sirvel	19	34·40	1,500 0 7	43 9 8	1882–86
Nandyál	26	29·37	2,499 10 5	85 1 9	1882–85
Atmakúr	9	38·20	725 2 4	18 15 9	1882–85
Nandikótkur	2	2·03	144 0 0	70 14 11	1883–86
Kalwa	9	7·90	1,809 3 2	229 0 2	1882–86
Márkápur	34	43·39	2,073 2 0	47 12 6	1882–86
Cumbum	69	80·41	5,086 1 9	63 4 0	1882–85
Giddalur	24	19·53	972 11 2	49 12 11	1885-86

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opposite shows the total, arable and occupied areas in each tract drawn to scale and the average rate of assessment per acre of dry land in each tract:

Tract.	Total area.		Arable area.						Government and Minor Inam land.	
				Proportion of					Proportion of	
	Extent.	Of total of all tracts.	Extent.	Gross arable area.	Total area in tract.	Government land.	Inam land. Minor.	Inam land. Shrotriem.	Arable area occupied.	Occupied area cultivated.
	ACRES.	P. CENT.	ACRES.	P. CENT.	P. CENT.	P. CENT.	P. CENT.	P. CENT.	P. CENT.	P. CENT.
Kurncol	167,286	5	143,899	6	86	67	30	3	93	96
Bellagal	355,160	10	290,675	11	82	74	25	1	78	94
Hosur	74,847	2	69,227	3	92	71	29	..	82	91
Piápalle	417,069	12	295,005	12	71	76	21	3	63	90
South Erramala ..	126,112	4	61,759	2	49	70	30	..	73	91
North Erramala ..	256,950	7	125,560	5	49	66	33	1	75	89
Nannur	85,672	2	61,501	2	72	58	40	2	91	94
Nandikótkur ..	335,036	10	266,519	11	80	69	30	1	76	92
Atmakúr	175,809	5	110,572	4	63	83	15	2	44	93
Nallamala ..	210,132	6	121,622	5	58	72	28	..	77	87
Kundér	423,810	13	363,793	14	86	60	40	..	96	97
Owk	71,661	2	49,585	2	69	55	43	2	87	92
Chaygalmarri ..	111,928	3	81,262	3	73	63	37	..	85	92
Sagilér	111,423	3	76,643	3	69	58	32	10	77	88
Gundlakamma ..	125,762	4	94,962	4	76	58	29	13	79	90
Basinepalle ..	83,761	2	39,478	2	47	45	19	36	80	92
Cumbum	13,748	..	9,410	..	68	70	30	..	90	90
Vémulakota ..	50,872	1	41,702	2	82	68	20	12	75	91
Dupád	320,081	9	235,094	9	73	71	16	13	61	79

The total area of any tract is but little indication of its importance, it being rather the arable area that indicates the capacity; but the Kundér tract is the largest in every respect, and those coming nearest to it in area are the Bellagal, Piápalle, Nandikótkur and Dupád tracts. Below them, with about half the arable area of the latter, are the Kurnool, North Erramala, Atmakúr, and Nallamala tracts; and then smaller still the Gundlakamma, Chaygalmarri and Sagilér; and then the other tracts, with Cumbum, the smallest of all, relieved from its insignificance in area by the land being mostly irrigable. The distribution of the area actually utilised, *i.e.*, under cultivation, throughout the district follows much the same lines, except that the poor Piápalle and Dupád tracts occupy in this respect a lower position than they do as to arable area. Though, therefore, the tracts vary greatly in size and importance, what is more interesting to note is the variation in the proportion of the area of arable land in each. This shows the ultimate resources more or less accurately. The largest proportion of arable land is found in the small Hosur tract, where 92 per cent. of the land is arable; after that come the Kurnool and Kundér tracts with a proportion not much lower, whilst near them also are the Bellagal, Nandikótkur and Vémulakota tracts in which the arable area is 80 per cent. and upwards of the total. In all these there is a large proportion of régada or black-cotton soil. In the tracts adjoining the Kundér, and in nearly all the remaining tracts east of the Nallamalas, and in the Piápalle and Nannur tracts, the arable area is more than 70 per cent. of the total; whilst in the two other tracts at the foot of the Nallamalas on the west it sinks to about 60 per cent., and in those on the Erramalas and in the Basinepalle tract to less than half the total area. These figures show that the last-named tracts have large areas included within the village limits, which are either reserved for village forests and grazing grounds or as poramboke, *i.e.*, land reserved for public purposes.

The distribution of the arable land under the main divisions of tenure may be noted here. Shrotriem villages are found chiefly in the eastern section of the district, except in the Cumbum tract, and in the Basinepalle tract account for 36 per cent. of the arable area; in the others accounting for from 10 to 13 per cent. Elsewhere in the district there is but little shrotriem land. The area of land comprised under the head of minor inams is largest in the Owk, Kundér and Nannur tracts, where 40 per cent. and upwards of the arable area is held on favorable tenure; whilst it is only in the

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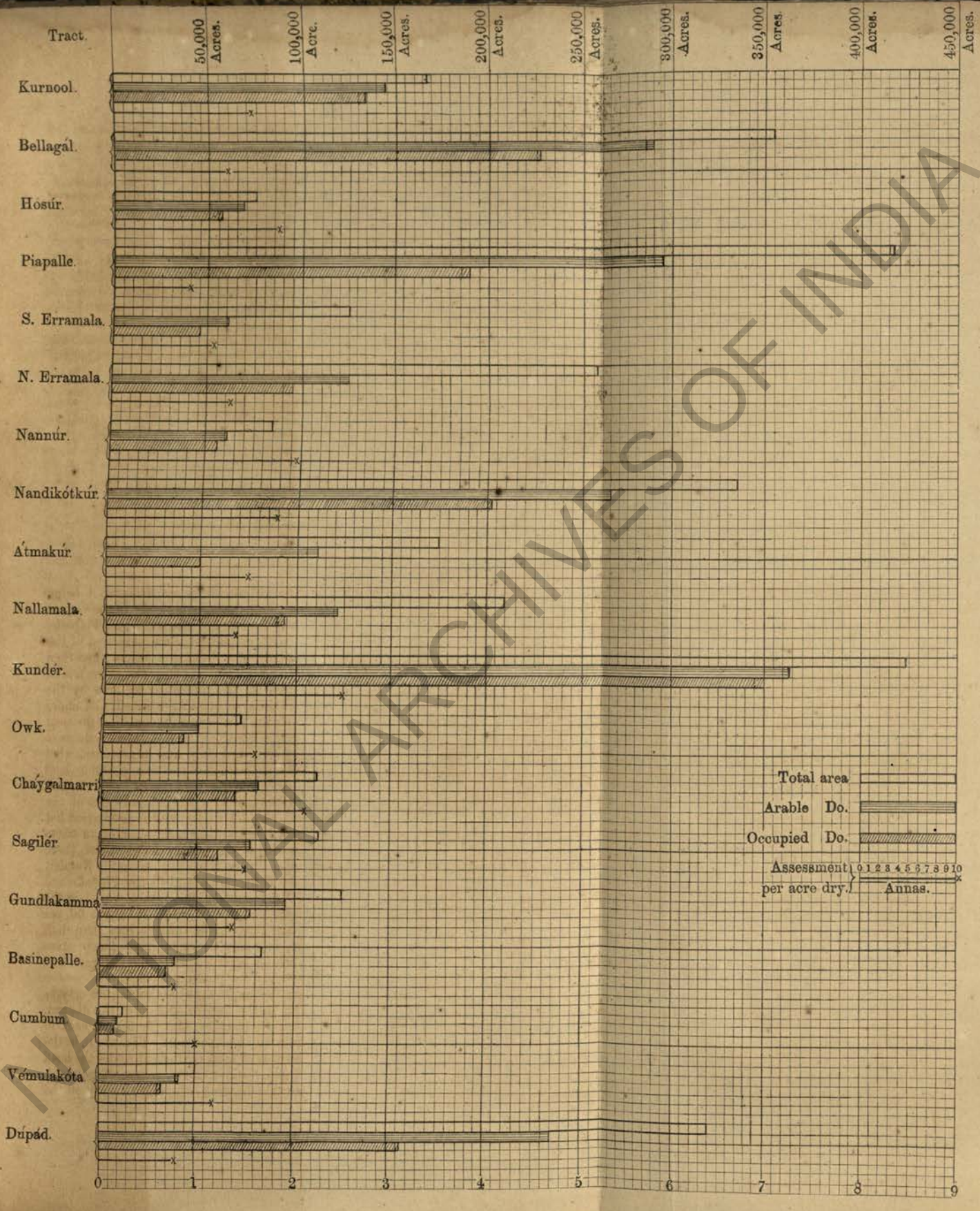

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Lithographed in Central Survey Office, Madras.
1889

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Piápalle, Basinepalle, Vemulakota, Dupád and Atmakúr tracts that the proportion under this head is less than 25 per cent.; sinking to 15 per cent. in the one last named. Thus the largest proportion of arable land held direct from Government on the ryotwari system is in the Atmakúr tract, whilst land on this class of tenure is found to comprise from 65 to 75 per cent. of the arable area in the whole of the western section of the district and on the Erramalas, in the Nandikótkur and Nallamala tracts, and in the eastern section of the district from Cumbum northwards. Elsewhere the arable land on this tenure accounts for about 60 per cent., except in the Basinepalle tract, where it forms only 45 per cent. of the arable area.

Resources.—The proportions of the arable area held on shrotriem and minor inam tenure are, however, shown in the diagram opposite, as well as several other particulars; and in the following abstract the nature and quality of the arable lands, for which full particulars are available, is shown, as well as the proportion of the different classes of land at present utilised in the different tracts, as well as of that which remains for future development.

Tract.	Arable area in tract per cent.			Land in Occupation.						
				Government area.		Inam area.		Total Government and Inam.		
				Percentage.		Percentage.		Per cent. of arable area.		
	Of gross arable area.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Total.
Kurnool	6	99	1	100	..	99	1	93	..	93
Bellagal	11	99	1	99	1	99	1	77	1	78
Hosur	3	100	..	100	..	100	..	82	..	82
Piápalle	12	98	2	98	2	97	3	63	2	65
South Erramala	2	98	2	97	3	96	4	71	2	73
North Erramala	5	99	1	99	1	99	1	74	1	75
Nannur	2	99	1	99	1	99	1	90	1	91
Nandikótkur	11	100	..	100	..	100	..	76	..	76
Atmakúr	4	95	5	93	7	90	10	41	4	45
Nallamala	5	96	4	96	4	93	7	73	4	77
Kundér	14	99	1	99	1	99	1	95	1	96
Owk	2	95	5	93	7	96	4	83	5	88
Chaygalmarri	3	99	1	99	1	98	2	84	1	85
Sagilér	3	95	5	95	5	94	6	75	4	79
Gundlakamma	4	96	4	95	5	96	4	78	4	82
Basinepalle	2	98	2	98	2	99	1	86	1	87
Cumbum	..	51	49	48	52	45	55	43	47	90
Vémulakota	2	95	5	94	6	96	4	74	4	78
Dupád	9	97	3	95	5	98	2	64	3	67

Tract.	Land in occupation—*cont.*				Land available for occupation.			
	Occupied Government land.							
	Assessment per acre.				Per cent. of total.		Assessment per acre.	
	Dry.		Wet.		Dry.	Wet.	Dry.	Wet.
	Rs. A. P.		Rs. A. P.				Rs. A. P.	Rs. A. P.
Kurnool	0 14 6		4 15 1		10	25	0 11 5	4 1 9
Bellagal	0 11 10		5 7 6		29	44	0 9 4	5 12 11
Hosur	1 1 7		6 0 4		25	27	1 4 10	5 12 1
Piápalle	0 7 11		5 5 9		47	41	0 7 3	5 1 6
South Erramala	0 10 10		5 9 3		38	15	0 6 9	4 13 3
North Erramala	0 12 4		5 0 4		38	5	0 8 3	4 13 11
Nannur	1 3 6		6 5 11		15	14	0 13 2	4 7 9
Nandikótkur	1 1 10		6 5 1		34	11	0 11 4	5 14 3
Atmakúr	0 14 9		5 2 4		68	43	0 13 11	5 0 4
Nallamala	0 13 10		4 10 9		32	11	0 13 1	4 7 0
Kundér	1 9 0		6 4 10		6	6	1 5 1	6 0 6
Owk	1 0 2		7 15 4		23	17	0 10 4	7 9 10
Chaygalmarri	1 4 8		6 0 7		23	17	1 2 0	5 6 8
Sagilér	0 14 10		5 9 5		36	24	0 10 6	4 6 11
Gundlakamma	0 13 5		5 9 4		32	19	0 9 11	4 11 6
Basinepalle	0 7 6		4 3 4		29	16	0 7 4	4 1 6
Cumbum	0 10 1		10 15 1		21	6	0 8 11	8 12 6
Vémulakota	0 11 10		6 7 6		33	18	0 10 9	6 14 3
Dupád	0 8 0		5 6 6		48	18	0 6 8	4 11 2

Of the arable area, it is only in the Cumbum tract that any material proportion is classed as 'wet,' *i.e.*, situated under any irrigation work. There that class of land occupies a little less than half the total area. Elsewhere, it is only in the

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Atmakúr, Nallamala, Owk, Sagilér, Gundlakamma and Vémulakota tracts that it reaches or exceeds 4 per cent. of the total arable area, and in the last-named tract the wet land really belongs to the Cumbum tank system, but could not be clubbed with it. Nearly all the tracts are, therefore, dependent on the falling rain. Whilst this is a general representation of the whole arable area, it will be noted that, in almost all cases under the minor inam land, the proportion of wet land held bears a larger proportion to the dry than does the same class with ryotwari land. The inam land may be taken as being all occupied.

The occupied area bears to the arable area under both classes of land a proportion which varies from 45 per cent. in the Atmakúr to 96 per cent. in the Kundér tract, where the largest proportion is occupied. It reaches or exceeds 90 per cent. of the arable area in the Kurnool, Nannur and Cumbum tracts, and is not much less in the Basinepalle, Owk and Chaygalmarri tracts, and above 80 per cent. in the Hosur and Gundlakamma tracts also. In the Bellagal, North Erramala, Nandikótkur, Nallamala, Sagilér and Vémulakota tracts it ranges from 75 to 79 per cent.; in the South Erramala it is 73, but sinks to 65 and 67 per cent., respectively, in the poor Piápalle and Dupád tracts, and to only 45 per cent. of the arable area in Atmakúr. It necessarily follows that in these tracts, where there is least land in occupation, are to be found the largest reserves for the extension of the ryots' holdings. As regards this available area, it is, of course, mostly dry land, and the area of wet land found in nearly all the tracts is so small that land of that class is of little importance. It, however, indicates in a measure the value of the sources of irrigation water met with in the different tracts to observe that 40 per cent. and more of the wet area is unoccupied in the Atmakúr, Bellagal and Piápalle tracts; and 20 to 30 per cent. in the Hosur, Kurnool and Sagilér tracts, whilst it is only in the North Erramala, Kundér and Cumbum tracts that the waste wet area is trifling. Of the tracts mentioned as showing a high proportion of 'wet waste,' the only ones in which the area of wet land is of any importance are the Atmakúr and Sagilér tracts, and the reason appears to be the fact that the minor works found in these tracts are in a bad state of repair, or the tanks are shallow and are silting up.

Turning, then, to the dry land available for the extension of ryots' holdings, it will be noticed that in the Atmakúr tract over two-thirds of the Government land is unoccupied, and that its quality is fair; this is exclusive of a large area of unassessed land situated in the tract. The Dupád and Piápalle tracts show nearly 50 per cent. of the Government land available for occupation, but it is of very poor quality, and in the Erramala tracts nearly 40 per cent. of the Government land, also of poor quality, awaits development. In the Vémulakota, Sagilér, Gundlakamma, Nandikótkur and Nallamala tracts above 30 per cent. and in the Basinepalle and Bellagal tracts only a little less than 30 per cent., of the Government land also lies unoccupied, but is of indifferent quality and poor in Basinepalle. In the Chaygalmarri, Owk, Cumbum and Hosur tracts between a fourth and fifth of the Government lands is not utilised, but the land is indifferent, except in the second and the last-named tracts. In the Kurnool and Kundér tracts the proportion not utilised is small but apparently of fair quality; and a rather larger proportion, also of fair quality, lies unoccupied in the Nannur tract. Considering the situation and cultivation of the different tracts, it may be said that, except in the tracts lying along the western foot of the Nallamalas and in most of those lying east of those mountains, it is not desirable that the holdings should be greatly extended. All of these have easy access to the grazing grounds of the Nallamala forests, and in the latter the population is large. In the Piápalle tract, the land is poor and the crops most precarious; the Erramala tracts are not easy of access, and the climate uncertain. In the Bellagal tract some extension might be allowed, although the climate is unfavorable, and the land available of but indifferent quality. The extraordinarily high average rate of assessment on the waste land in the Hosur tract is due partly to good land being left 'waste,' owing to the distance it lies from the villages, which are situated in the few places where a tolerable supply of drinking water can be had, and apparently partly owing to the heavy rates of assessment imposed.

The next point to consider is the extent and nature of the land kept under cultivation. This is shown in the following table in which the area of land held in shrotriem villages has, in most cases, been excluded, because full particulars for them are not available. The table shows the distribution of the area and the value of the land

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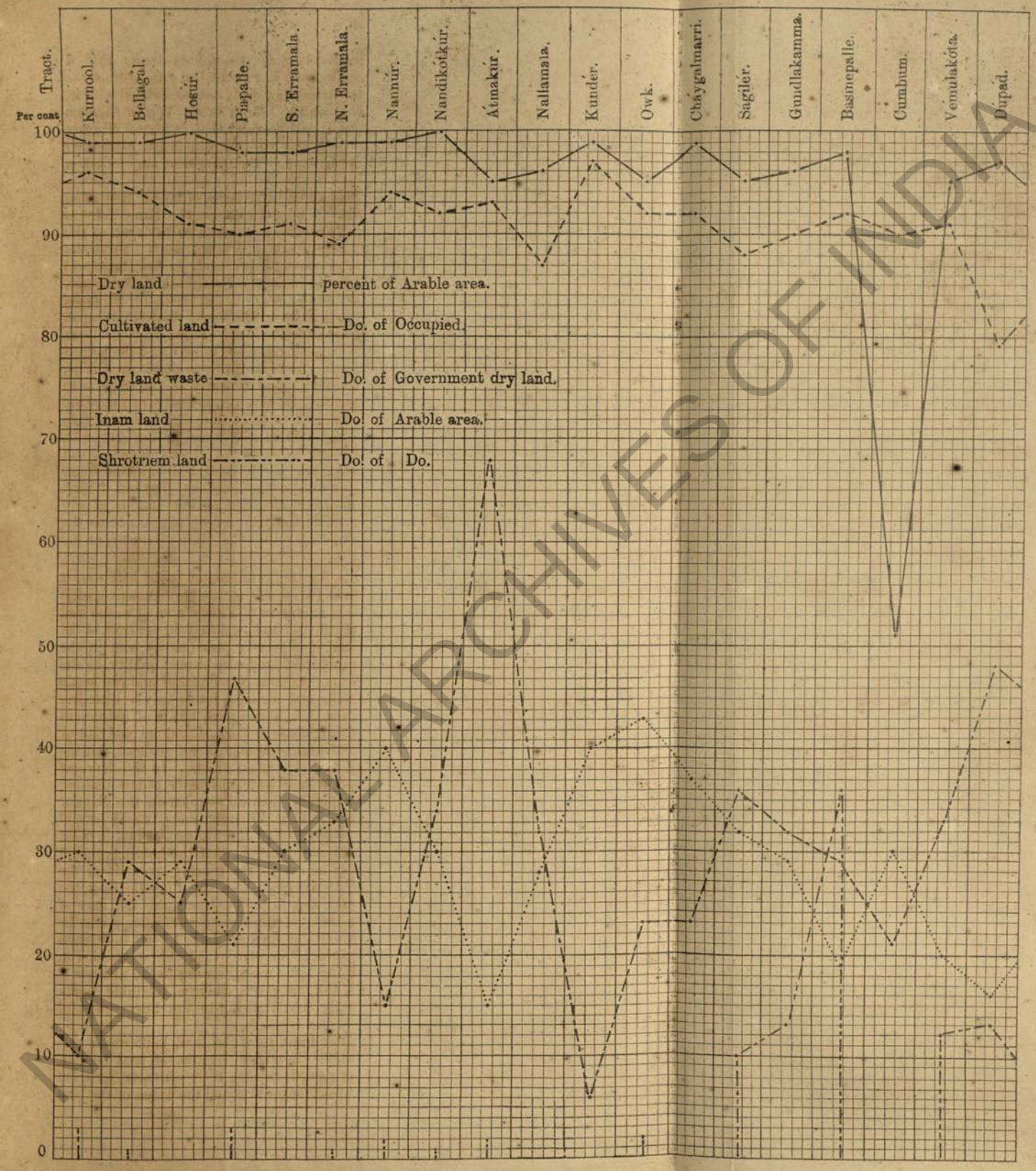
Diagram showing the proportion of arable area dry, cultivated & waste &c.



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under cultivation, and the average proportion of the land under occupation that has been cultivated during the past three years for each tract:

Tract.	Cultivated area (Government and Inam).						
	Average extent.			Assessment per acre.			
				Dry.		Wet.	
	Dry.	Wet.	Total.	Government.	Inam.	Government.	Inam.
	ACRES.	ACRES.	ACRES.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Kurnool	124,465	461	124,926	0 14 8	0 14 8	5 0 5	4 11 0
Bellagal	210,027	1,613	211,640	0 11 10	0 12 5	5 6 8	5 8 6
Hosur	51,839	117	51,956	1 1 8	1 2 4	5 12 11	6 15 2
Piápalle	161,358	2,462	163,820	0 8 1	0 7 11	5 8 7	5 6 10
South Erramala	39,809	1,226	41,035	0 11 1	0 11 0	5 12 0	6 0 4
North Erramala	82,475	1,070	83,545	0 12 9	0 14 10	5 3 2	7 0 3
Nannur	51,686	306	51,992	1 3 9	1 3 1	6 5 10	6 5 3
Nandikótkur	182,689	437	183,126	1 2 3	1 2 8	6 4 5	5 14 4
Atmakúr	39,996	3,749	43,745	0 14 10	1 0 7	5 2 4	5 2 1
Nallamala	77,306	4,593	81,899	0 14 5	0 15 5	5 4 11	5 2 1
Kundér	337,052	3,718	340,770	1 8 10	1 8 5	6 15 9	7 2 10
Owk	36,882	2,121	39,003	1 0 8	1 1 10	8 6 6	8 4 11
Chaygalmarri	63,050	951	64,001	1 4 7	1 4 1	5 10 2	5 9 4
Sagilér	43,888	2,586	46,474	0 15 3	1 0 7	5 10 11	5 8 7
Gundlakamma	55,481	3,028	58,509	0 14 2	0 13 7	5 13 8	6 0 4
Basinepalle	18,216	448	18,664	0 7 6	0 7 8	4 3 5	4 4 7
Cumbum	3,278	4,345	7,623	0 10 9	0 7 4	11 0 6	7 14 8
Vémulakota	23,830	1,464	25,294	0 14 11	0 12 0	6 8 8	7 2 5
Dupád	94,875	4,693	99,568	0 8 2	0 7 8	5 11 7	6 5 4

Tract.	Cultivated area (Government and Inam)—*cont.*							
	Per cent. of occupied area.							
	Dry.		Wet.		Total.			Per cent. of gross area.
	Government.	Inam.	Government.	Inam.	Dry.	Wet.	Total.	
Kurnool	97	95	86	68	96	..	96	7
Bellagal	98	86	79	67	93	1	94	11
Hosur	95	86	59	61	91	..	91	3
Piápalle	96	81	57	61	89	1	90	9
South Erramala	95	85	89	86	88	3	91	2
North Erramala	91	86	86	83	88	1	89	4
Nannúr	96	93	90	73	94	..	94	3
Nandikótkur	95	87	98	90	92	..	92	10
Atmakúr	98	82	97	90	85	8	93	2
Nallamala	90	81	99	95	82	5	87	4
Kundér	98	97	97	93	96	1	97	18
Owk	93	91	90	90	87	5	92	2
Chaygalmarri	95	89	97	79	91	1	92	3
Sagilér	92	82	95	91	83	5	88	3
Gundlakamma	90	90	92	88	85	5	90	3
Basinepalle	97	85	98	92	90	2	92	1
Cumbum	86	71	97	97	39	51	90	..
Vémulakota	96	81	89	83	86	5	91	1
Dupád	89	55	84	68	75	4	79	5

As regards the area of land ordinarily kept under cultivation by far the most important tract is the Kundér, where also the value of the land cropped is highest; next to it come the Bellagal, Nandikótkur and Piápalle tracts with between two-thirds and half the area and Kurnool tract with scarcely one-third the area. In the Dupád, Nallamala and North Erramala tracts over 80,000 acres and in the Chaygalmarri, Gundlakamma, Nannur and Hosur tracts over 50,000 acres are annually cropped; whilst in the Sagilér, South Erramala, Owk, Atmakúr and Vémulakota tracts over 25,000 acres are, and in Basinepalle nearly 19,000, and Cumbum only 7,600 acres. The extremely high proportion of shrotriem land in the Basinepalle tract must be remembered here,—a proportion which is also considerable in the other tracts of the eastern section, except Cumbum. The proportion of wet land is so very small, except in the Cumbum tract, that, in considering the quality of the land under cultivation, it is only necessary to consider the dry area. The assessment on this class of land shows that the quality of the cultivated area varies in the different tracts just as that of the occupied area, and that practically all over the district the best lands in occupation are the most severely cropped. The quality of the inam land differs but little in any tract from the Government land; it is apparently a little poorer in some and a little richer in others.

The proportion of the occupied area, which is kept under cultivation, does not vary very much in different parts of the district. It is far the lowest in the Dupád tract,

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where also a large portion of the land held as minor inams is ordinarily left waste. In that tract, the land under cultivation is of the poorest quality and necessarily requires frequent rest. Elsewhere nearly 90 per cent. or more of the occupied Government and minor inam lands are under cultivation annually, the ryots utilising practically the whole of their holdings for the growth of crop; but the per-centage of cultivation is highest in the central section (except the Nallamala tract) and towards the north as far as the Kurnool tract. The poor and more or less inaccessible lands in the Piápalle, Erramala and Nallamala tracts and the eastern section demand more frequent rest than elsewhere. In the Kundér tract, where good land abounds, the arable area is practically never at rest as long as the seasons are favourable; Government and inam lands alike being rarely left waste.

The area of wet land under cultivation is only absolutely of importance in the Dupád, Cumbum, Sagilér, Gundlakamma, Owk, Kundér, Nallamala, Atmakúr and Piápalle tracts, and of these in the Piápalle, Dupád and Kundér tracts it is, relatively to the area of dry land, of little or no consequence. In the Vémulakota tract the irrigable area is of some relative importance, but it is only in the Cumbum tract that this class of land outweighs all others. The proportion of the occupied area of this class of land under crop, if it be any indication of the value of the water-supply, shows that of all the Piápalle tract is the worst off in the whole district; whilst naturally Cumbum shows up best both under Government and inam land. On this class of land, as on the dry, the proportion of the holdings of Government land which is cultivated, is higher than that of the inam lands, but there are a few startling differences, viz., in the Kurnool, Bellagal, Nannur, Chaygalmarri, and Dupád tracts, which it is difficult to explain. The wet land in the Kundér tract lies nearly all under the Nandyál tank, and is practically watered from the Kurnool-Cuddapah canal. Otherwise in the tracts where wet land is both absolutely and relatively of importance, the proportion of the irrigable area cultivated is highest in the Nallamala and Atmakúr tracts, and a little lower in the Sagilér and Gundlakamma tracts.

Population, as will be seen by reference to the diagram, or the figures in the margin, is far the most closely packed in the Cumbum tract, which is small, and contains a fair-sized town besides numerous villages, and is the only one in the district which is protected by a good irrigation system. Next to this come the other tracts in the Cumbum taluk, with from 408 to 448 persons per 1,000 acres of arable land; and then, omitting the Kurnool tract in which the town of Kurnool is included and disturbs the figures, the rest of the eastern section of the district with about 316 per 1,000 acres. The southern end of the central section follows next with about 300, and then the small Nannur tract, the Nallamala tract and those lying on the Erramalas with about 250 per 1,000 acres. The smallest population (131) is found in the Atmakúr tract, where the largest proportion of arable land lies uncultivated, and next to that (167) in the Piápalle tract, where the proportion of arable land in occupation is also low. The other tracts maintain a population of about 200 per 1,000 acres arable.

Tract.	Population.			
	Males per 1,000.	Illiterate.	Per 1,000 acres.	
			Arable.	Cultivated.
	NO.	PER CENT.		
Kurnool	501	92	336	375
Bellagal	517	96	207	282
Hosur	512	95	210	279
Piápalle	524	96	167	294
South Erramala ..	525	97	258	388
North Erramala ..	520	95	233	348
Nannur	508	96	265	313
Nandikótkúr ..	507	95	198	285
Atmakúr ..	500	95	131	325
Nallamala ..	506	94	248	368
Kundér	500	94	307	327
Owk	502	95	313	392
Chaygalmarri ..	501	95	300	381
Sagilér	498	96	448	657
Gundlakamma ..	501	97	416	629
Basinepalle ..	512	98	408	625
Cumbum ..	497	93	1,767	2,181
Vémulakota ..	500	97	317	465
Dupád	503	97	316	699
	507	95	267	382

Here it may be noted that the proportion of males in the population was returned at the census as much highest in the Piápalle and the Erramala tracts, the enumeration being worse in these parts perhaps, owing to their being the least accessible, and was also unduly high in the Hosur, Bellagal and Basinepalle tracts; elsewhere the number of males and females was returned as nearly equal, the former slightly preponderating, except in the Cumbum tract. The proportion of illiterate persons was shown as highest in the eastern section, again excepting Cumbum, and next over the greater part of the western section and the Erramalas. In the tracts lying in the central section of the district, there is but little variation, and the proportion is about that of the district as a whole.

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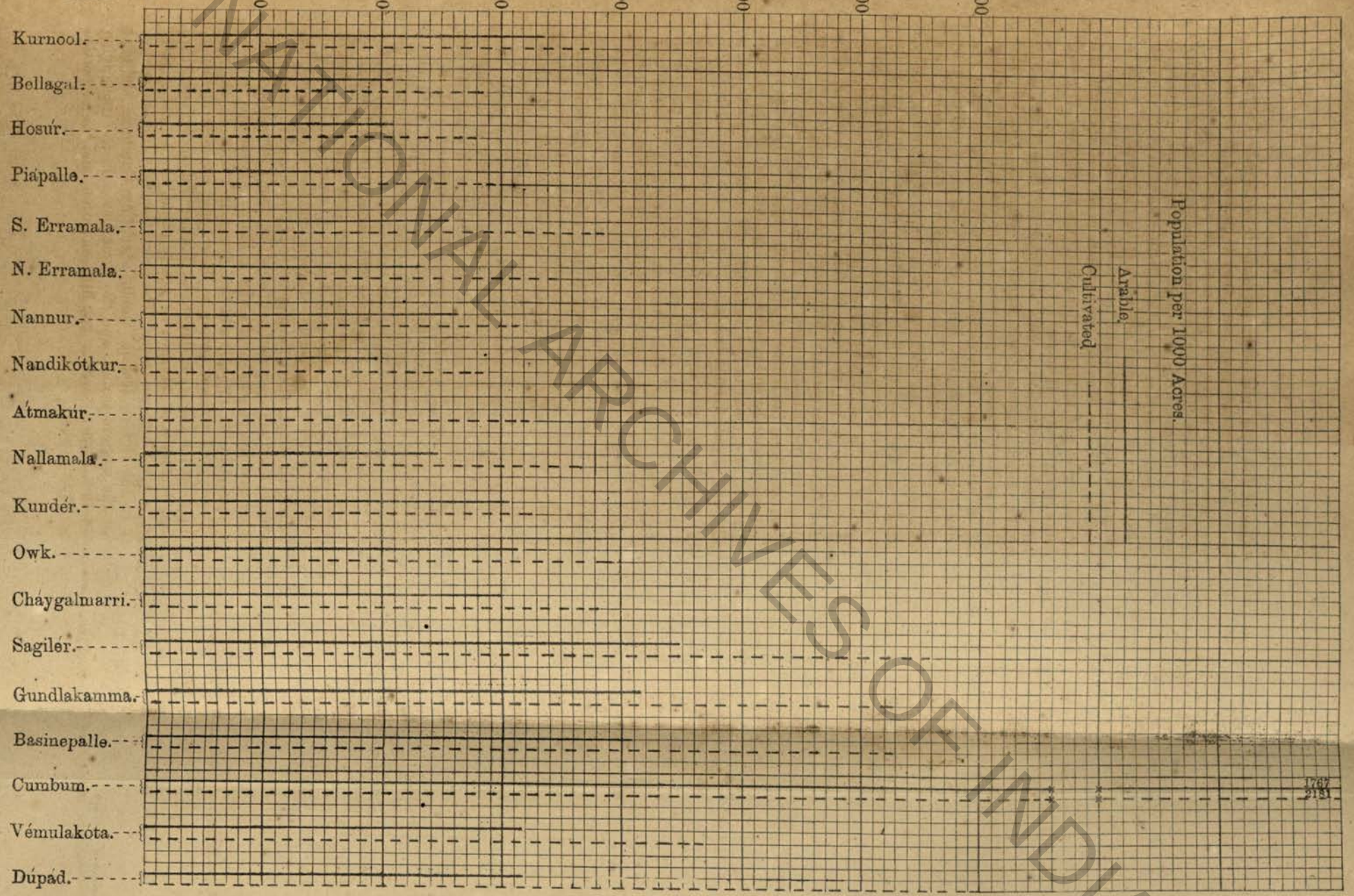

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What the people have to support themselves on, however, is the land in occupation, or that which they can keep under cultivation. The former particular cannot be accurately shown owing to the absence of complete statistics for the shrotriem villages, but the latter is indicated by the population maintained per 1,000 acres cultivated. This, of course, is again far the highest in the Cumbum tract, after which comes the rest of the eastern section of the district, although in the Vémulakota tract it is much less than elsewhere. After this at a considerable distance are the Erramala and Owk tracts; those lying along the foot of the Nallamala on the west; and the Kurnool tract, within which again is included the town population of the head-quarters of the district. In the Kundér, Nannur and Atmakúr tracts it is lower still, and in the remainder of the district sinks to below 300 to 1,000 acres.

Carrying the consideration of the problem further, it is necessary to consider the nature of the land which the ryots have to work on. This may be said to be indicated by the rates of assessment imposed on the Government area; looking at these rates it will be seen that on the average by far the best land is to be found in the Kundér tract, where the average assessment is above Rs. 1-8-0 per acre, and that the only others at all approaching it are the Chaygalmarri, Nannur, Nandikótkúr, Hosur and Owk tracts in the order named, where the rates are Re. 1 and upwards. Then, with land bearing an average rate of about 14 annas, come the Kurnool, Atmakúr, Nallamala, Gundlakamma and Sagilér tracts; and, with rates of about 12 annas, the Bellagal, Erramala and Vémulakota tracts. The poorest lands are to be found in the Piápalle, Dupád and Basinepalle tracts, where the rate is about 7½ to 8 annas per acre only. Cumbum tract being omitted, as it is characteristically a 'wet' tract.

Bearing these facts in mind, it would appear that the pressure of population on the soil is by far the heaviest in the Dupád and Basinepalle tracts, and then in the remainder of the eastern section and lightest of all in the Hosúr tract, but light also in the Bellagal, Nandikótkúr, Nannur and Kundér tracts; heavier again in the Kurnool, Piápalle, Atmakúr, Owk and Chaygalmarri tracts, and heavier still in the two Erramala and the Nallamala tracts. In most of these eight last-named tracts, except Kurnool, the ryot has in cattle breeding an additional source of income,—a source which also enables the people of the eastern section to eke out the produce of their holdings.

Holdings.—Carrying the consideration further to see how the land is distributed in holdings in the different tracts, the table below gives particulars as far as the Government lands are concerned. It is impossible to give a complete view of the holdings on which the ryots individually depend; still the figures indicate pretty clearly what the condition of the ryot is in different parts of the district, it being remembered what proportion of the area is taken up by shrotriem and minor inam lands in different parts:

Tract.	Total occupied area referred to.	Total pattas of all classes.						Number of		Average area per registered ryot.
		Number.	Proportion.		Average.			Registered ryots.	Sub-tenants.	
			Joint.	Single.	Assessment.	Assessment per acre.	Area.			
	ACRES.				RS. A. P.	RS. A. P.	ACS.			ACRES.
Kurnool	88,109	4,159	29	71	19 8 0	0 14 10	21	3,445	1,255	26
Bellagal	154,340	10,765	22	78	11 2 0	0 12 9	14	8,979	1,632	17
Hosur	35,084	2,168	24	76	19 0 0	1 3 0	16	1,701	639	21
Piápalle	116,833	8,190	20	80	8 14 0	0 10 2	14	7,695	1,570	15
South Erramala ..	28,723	2,908	22	78	7 15 0	0 12 8	10	2,777	415	10
North Erramala ..	52,104	4,747	30	70	9 3 0	0 13 4	11	4,813	1,181	11
Nannur	30,999	1,842	36	64	20 12 0	1 3 6	17	1,810	598	17
Nandikótkúr ..	126,052	7,665	33	67	18 4 0	1 2 3	16	6,757	2,254	19
Atmakúr	32,603	2,764	28	72	14 0 0	1 2 8	12	1,842	884	18
Nallamala	63,630	6,281	28	72	9 14 0	0 15 10	10	5,804	2,340	11
Kundér	206,537	13,747	38	62	23 15 0	1 9 6	15	14,266	5,354	14
Owk	21,272	2,982	37	63	10 9 0	1 8 2	7	2,746	917	8
Chaygalmarri ..	41,253	4,327	30	70	12 4 0	1 3 7	10	4,024	1,437	10
Sagilér	25,402	4,730	37	63	6 1 0	1 3 5	5	5,733	1,780	4
Gundlakamma ..	35,191	5,208	37	63	7 11 0	1 1 7	7	5,729	1,779	6
Basinepalle ..	12,735	1,548	33	67	4 8 0	0 9 0	8	2,041	401	6
Cumbum	5,597	2,629	32	68	13 2 0	6 9 0	2	1,883	1,744	3
Vémulakota ..	18,600	2,767	34	66	7 6 0	1 0 10	7	2,751	1,100	7
Dupád	85,395	8,778	34	66	7 7 0	0 11 11	10	10,443	3,349	8

The proportion of joint to single pattas appears to follow the administrative divisions of the district rather than to be influenced by any natural causes or conditions. It is lowest in the tracts covering the Pattikonda and Rámallakót taluks, except that portion included in the Nannur tract, and low also in the tracts along the

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western foot of the Nallamalas, but rises high above the district average in the remaining tracts of the central section, where it reaches to nearly two-fifths of the total number, and is also much above the district average in the eastern section. The average area and the average assessment per patta follow almost similar lines of distribution. In the eastern section, the holdings generally average about 8 acres or less, except in Dupád, where 10 acres is reached, and the assessment nowhere rises above Rs. 8, except in Cumbum, where the average (Rs. 13) is a little more than the district average,—a result brought about by the abundance of double crop wet land in that tract,—but sinks to Rs. 4-8-0 in the Basinepalle tract. The only other tract, in which the average area of the holdings sinks below 10 acres, is Owk, but there the average assessment is nearly Rs. 11. In the South Erramala, Nallamala and Chaygalmarri tracts, the holdings average 10 acres each, and in the North Erramala and Atmakúr, 12 acres or less, which is about the district average. In the Bellagal, Piápalle, Hosur, Nandikótkur and Kundér tracts, they are 16 acres or under, and only in the Nannur and Kurnool tracts do they exceed that area. The liabilities of the ryot, however, do not exactly follow this arrangement. They are heaviest in the Kundér, at Rs. 24 per patta or nearly double the district average, and in the Nannur, Hosur, Kurnool and Nandikótkur tracts, they range from Rs. 21 to 18; whilst in the Bellagal, Atmakúr, Nallamala, Owk and Chaygalmarri tracts, they only reach Rs. 10, and do not exceed Rs. 14; and in the Piápalle and Erramala tracts they reach nearly as low a figure as in the eastern section. It would almost appear that, except in the last-named section and in the Hosur tract, where the holdings are largest and the liabilities on the pattas are the greatest, the number of joint pattas is also greatest.

The confusion, or rather want of definite system in distinguishing in the returns between ryots, *i.e.*, those holding a proprietary right in the soil, and sub-tenants renders the figures given as to these two classes of persons interested in the land almost useless. Too generally a ryot is returned as a sub-tenant, if he be not resident in the village for which the return is rendered, the word sub-tenant having been translated as *payukari*. The headings should thus rather be resident and non-resident ryots, but then, if this were accepted and the figures for both classes were taken together, the number would be greatly exaggerated; for a ryot often holds lands in more than one village, and may be included in the return from one as a resident and in those from others as a non-resident ryot. Much, therefore, cannot be gained from the figures. The average area held in each patta is a safer index to the size of the holdings than the average area held per registered ryot. The number of sub-tenants in the Cumbum and Vémulakota tracts is very large; whilst in the whole of the central section of the district and in the Kurnool, Hosur, North Erramala and the rest of the Eastern section it bears a high proportion to the number of resident ryots.

Tract.	Acres per pattadar.	
	Occupied.	Cultivated.
Kurnool	31	30
Bellagal	21	20
Hosur	26	24
Piapalle	22	20
South Erramala	16	14
North Erramala	20	18
Nannur	30	28
Nandikótkur	26	24
Atmakúr	17	16
Nallamala	15	13
Kundér	25	25
Owk	14	13
Chaygalmarri	16	15
Sagilér	11	10
Gundlakamma	12	11
Basinepalle	13	12
Cumbum	3	3
Vémulakota	10	9
Dupád	14	11

Assuming that the number of pattas is about equal to the number of persons actually interested in the whole of the land occupied in the Government villages, *i.e*, both Government and minor inams, the resulting figures are noted in the margin, giving the area on which the average ryot depends. The holdings in shrotriem villages cannot be shown, but it must be noted that in some cases the ryots resident therein occupy land in Government villages, and *vice versâ*. These figures are based on an assumption which may or may not be correct,* and they cannot be used as a basis on which to found sound deductions as to the condition of the ryots in each tract.

The following abstract carries out the analysis of the holdings in Government villages to a greater degree.

* As a matter of general observation, the minor inam land may be said to be usually in the hands of the richer pattadars; the smaller ryots being entirely dependent on their holdings of Government land.

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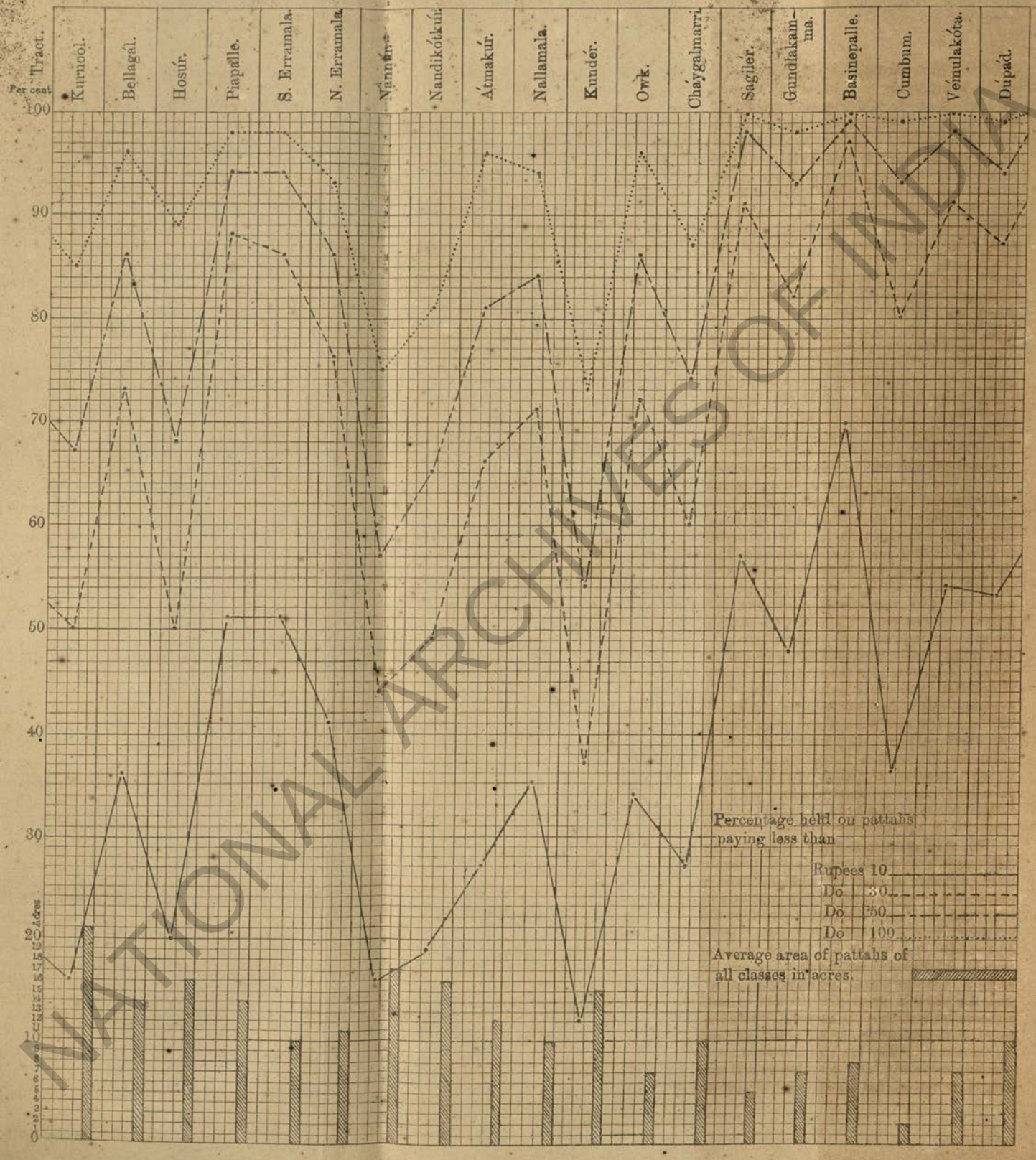
Diagram showing proportion of land held on pattahs of different classes.



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Tract.	Percentage of area held on pattás paying								Average area of holdings on pattas paying							
	Under Rs. 10.	Rs. 10 to 30.	Rs. 30 to 50.	Rs. 50 to 100.	Rs. 100 to 250.	Rs. 250 to 500.	Rs. 500 to 1,000.	Over Rs. 1,000.	Under Rs. 10.	Rs. 10 to 30.	Rs. 30 to 50.	Rs. 50 to 100.	Rs. 100 to 250.	Rs. 250 to 500.	Rs. 500 to 1,000.	Over Rs. 1,000.
									ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.	ACS.
Kurnool	16	34	17	18	12	2	1	..	7	20	40	68	138	332	504	..
Bellagal	36	37	13	10	4	..	..	..	8	20	39	62	123	177	..	..
Hosur	20	30	18	21	9	1	1	..	6	16	29	49	87	235	259	..
Piápalle	51	37	6	4	2	..	..	..	10	25	35	47	156	..	593	..
South Erramala ..	51	35	8	4	1	1	..	..	6	19	31	48	78	344	..	..
North Erramala ..	41	35	10	7	3	..	..	4	6	17	31	55	111	..	..	1,889
Nannur	16	28	13	18	19	4	..	2	5	15	29	48	106	209	..	644
Nandikótkur ..	19	30	16	16	15	3	1	..	6	17	32	53	107	218	389	..
Atmakúr	27	39	15	15	4	..	..	..	5	14	28	46	75	..	..	..
Nallamala	35	36	13	10	6	..	..	..	5	17	34	58	120	..	..	..
Kundér	12	25	17	19	20	6	1	..	3	15	24	41	87	204	395	..
Owk	34	38	14	10	3	1	..	..	4	9	22	34	65	132	..	..
Chaygalmarri ..	27	33	14	13	12	1	..	..	4	12	27	46	153	137	..	..
Sagilér	57	34	7	2	..	..	..	..	4	11	27	48	..	..	..	..
Gundlakamma ..	48	34	11	5	2	..	..	..	4	12	28	39	145	..	..	..
Basinepalle ..	70	27	2	1	..	..	..	..	6	24	41	63	..	..	..	..
Cumbum	36	44	13	6	1	..	..	..	2	2	4	9	9	..	..	..
Vémulakota ..	54	37	7	2	..	..	..	..	5	12	28	42	67	..	..	..
Dupád	53	34	7	5	1	..	..	..	7	18	30	58	75	..	..	..

Tract.	Average assessment per acre of land of each class on pattas paying							
	Under Rs. 10.	Rs. 10 to 30.	Rs. 30 to 50.	Rs. 50 to 100.	Rs. 100 to 250.	Rs. 250 to 500.	Rs. 500 to 1,000.	Over Rs. 1,000.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Kurnool	0 11 5	0 13 11	0 15 7	1 0 6	1 0 10	1 0 1	1 3 8	..
Bellagal	0 9 0	0 13 4	0 15 2	1 0 11	0 15 7	2 6 2	..	..
Hosur	0 13 8	1 1 2	1 4 10	1 6 6	1 7 5	1 7 6	2 0 8	..
Piápalle	0 7 2	0 11 2	1 0 7	1 6 6	0 14 9	..	1 0 0	..
South Erramala ..	0 10 4	0 14 4	1 3 4	1 7 1	1 12 5	1 3 5	..	..
North Erramala ..	0 10 2	0 14 11	1 3 2	1 2 11	1 3 5	..	..	0 9 11
Nannur	0 14 10	1 2 1	1 4 10	1 6 4	1 6 0	1 7 3	..	1 9 2
Nandikótkur	0 12 4	1 0 2	1 2 11	1 4 7	1 5 11	1 7 0	1 8 0	..
Atmakúr	1 0 0	1 3 2	1 5 4	1 6 9	1 10 8	..	..	..
Nallamala	0 13 10	0 15 1	1 1 0	1 2 6	1 2 4	..	..	..
Kundér	1 9 0	1 9 10	1 9 0	1 10 4	1 10 9	1 10 8	1 10 4	..
Owk	1 0 6	1 10 4	1 10 10	1 12 11	1 14 5	2 4 9	..	..
Chaygalmarri	1 0 0	1 5 8	1 6 2	1 5 8	1 7 10	2 2 3	..	..
Sagilér	0 14 6	1 5 11	1 7 0	1 4 0	..	..	..	..
Gundlakamma	0 15 0	1 6 1	1 5 0	1 12 3	0 12 9	..	..	..
Basinepalle	0 8 0	0 10 10	0 13 6	0 14 10	..	..	..	..
Cumbum	2 5 0	8 10 0	9 2 6	7 3 11	11 15 4	..	..	..
Vémulakota	0 13 7	1 5 1	1 5 0	1 13 2	1 11 0	..	..	..
Dupád	0 9 2	0 12 11	1 4 0	1 2 10	1 15 1	..	..	..

In this abstract one particular,—really one of the greatest import—which is deficient in the ordinary returns, is shown; that is, the area of land occupied on pattas of the different classes. Examining these particulars, it will be seen that in all the eastern section of the district, except the Cumbum tract, 48 per cent. and upwards of the total area of Government lands is held on holdings not paying more than Rs. 10 each to Government, the proportion rising to 70 per cent. in the poor Basinepalle tract. In two other tracts only is a similar tremendous preponderance of pauper-cultivators found, viz., Piápalle and South Erramala, where 51 per cent. of the ryotwari area is so held; but the North Erramala tract is not much better with 41 per cent. Besides this, the class of ryots next higher in the scale can scarcely be called other than paupers, and, if these be added, 97 per cent. of the area in Basinepalle and from 76 to 91 per cent. in the other tracts referred to is held on pattas not one of which represents a liability for land assessment of more than Rs. 30. The Cumbum tract is peculiar, as nearly half its arable land is wet land protected by a very good supply of irrigation water, but in it even 80 per cent. of the holdings come under the same

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category, and what is more do not average more than 2 acres in area. In the Nallamala, Owk and Bellagal tracts, over 70 per cent. of the area is held on pattas of the same classes, whilst in the Atmakúr and Chaygalmarri tracts it is over 60 per cent. In three other tracts, viz., Hosur, Nandikótkur and Kurnool, just about 50 per cent. of the area is held in these small holdings; in Nannur 44 per cent. and in the Kundér tract only 37 per cent.; that is to say, that over a large part of the district upwards of two-thirds, over the greater part one-half, and nowhere less than one-third of the Government land is held by paupers. It is true that one man's name appears often in several joint pattas and in pattas relating to lands in different villages, and he may hold inam land in addition to his ryotwari holding either as his own property or as a sub-tenant, but still even if all this is allowed for, the main indications of these figures will not be disturbed.

Looking at the figures from another aspect, *i.e.*, the proportion of the area held in holdings of fair size, that is, where the land-tax amounts to a hundred rupees or more, it will be seen that only in the Kundér and Nannur tracts does this rise to any considerable figure. In three tracts there are no such holdings; and in two only one per cent. of the area is so held. In only eight tracts are there any holdings liable to more than Rs. 250 each, and in six are there any paying more than Rs. 500. Next to the two tracts named above, the Kurnool and Nandikótkur tracts are those in which the largest proportion of the area is held in large holdings and these are followed by the Chaygalmarri and Hosur tracts. In the Nallamala, Atmakúr, Owk, and Bellagal tracts, the area so held is very small, and all over the rest of the district large holdings scarcely exist, and there are none at all in the Sagilér, Basinepalle and Vémulakota tracts. It appears that it is only where the soil is good and can be easily worked on a large scale that the larger holdings are to be found.

Again the figures may be looked at from another stand-point, viz., the proportion of the area that is held on pattas of no more than one pair-of-cattle power. In the Kurnool, Hosur, Nannur, Nandikótkur, Kundér, Owk and Chaygalmarri tracts, this would include most of the pattas of the three lowest classes, *i.e.*, those with a liability of under Rs. 50 per annum, but in the other tracts only those of the two lowest classes. Looking at the figures in this way, from 54 per cent. of the area in the Kundér to 97 per cent. in the Basinepalle tract is held by ryots who own no more than a single pair of bullocks, and a large share of the area is held by men who do not own a single pair. The actual proportions are given in the margin, and show that in only two tracts which together account for 16 per cent. of the total arable and 21 per cent. of the total cultivated area of the district, is more than 40 per cent. of the Government land held by ryots who may be presumed to own and use more than a single pair of bullocks. In no tract is the average area in the lowest class of patta anywhere near the unit of tilling power for the cattle in the same tract; the ryots who hold these pattas, therefore, may be presumed not to own more than a share in a pair of cattle. Or, in other words, a very large proportion of the cultivation is carried on by co-operation amongst the ryots. Unless such a system were largely carried out,—and it is,—it would be impossible that agricultural operations on the systems in vogue could be carried on with economic results which were other than disastrous.

Tract.	PER CENT.
Basinepalle	97
Vémulakota	91
Sagilér	91
Dupád	87
Piápalle	88
South Erramala	86
Owk	86
Gundlakamma	82
North Erramala	76
Cumbum	80
Chaygalmarri	74
Nallamala	71
Bellagal	73
Hosur	68
Kurnool	67
Atmakúr	66
Nandikótkur	65
Nannur	57
Kundér	54

The abstract under reference discloses another marked feature, and that is, that in all tracts the better land is in the hands of the pattadars of the higher classes. The pauper ryots have to work on the poorest land. This only illustrates the land-hunger, which is well known to exist in India. Naturally the good land seldom falls out of occupation, and it is only on the poorer sorts that the adventuring pauper can obtain a hold.

Assuming as a basis of calculation the data already referred to to determine the annual income from the ryots' holding, the results are shown for the lower classes

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of pattas in the following table. It seems unnecessary to carry the calculations further in any tract:

Tract.	Holdings on pattas paying						Minor inams per cent. of arable area.
	Under Rs. 10.			Rs. 10 to 30.			
	Proportion of occupied area.	Average assessment per patta.	Annual income.	Proportion of occupied area.	Average assessment per patta.	Annual income.	
	PER CENT.	RS. A. P.	RS. A. P.	PER CENT.	RS. A. P.	RS. A. P.	
Basinepalle	70	3 0 0	6 12 0	27	16 5 0	36 11 0	19
Sagilér	57	3 10 0	8 2 0	34	15 1 0	33 14 0	32
Vémulakota	54	4 4 0	9 9 0	37	15 13 0	35 9 0	20
Dupád	53	4 0 0	9 0 0	34	14 8 0	32 10 0	16
Piápalle	51	4 8 0	10 2 0	37	17 7 0	39 4 0	21
South Erramala	51	3 14 0	8 11 0	35	17 0 0	38 4 0	30
Gundlakamma	48	3 12 0	8 7 0	34	16 9 0	37 4 0	29
North Erramala	41	3 13 0	8 9 0	35	15 13 0	35 9 0	33
Bellagal	36	4 8 0	10 2 0	37	16 10 0	37 6 0	25
Nallamala	35	4 5 0	9 11 0	36	16 0 0	36 0 0	28
Cumbum	36	4 10 0	10 6 0	44	17 4 0	38 13 0	30
Owk	34	4 2 0	9 4 0	38	14 13 0	33 5 0	43
Atmakúr	27	5 0 0	11 4 0	39	16 12 0	37 11 0	15
Chaygalmarri	27	4 0 0	9 0 0	33	16 4 0	36 9 0	37
Hosur	20	5 2 0	11 8 0	30	17 3 0	38 11 0	29
Nandikótkur	19	4 10 0	10 6 0	30	17 3 0	38 11 0	30
Kurnool	16	5 0 0	11 4 0	34	17 7 0	39 4 0	30
Nannur	16	4 10 0	10 6 0	28	16 15 0	38 2 0	40
Kundér	12	4 11 0	10 9 0	25	24 3 0	54 6 0	40

Looking at these figures the fact cannot fail to be impressed on any one that the lot of the majority of the ryots is an extremely hard one. An annual income of nine rupees represents an earning of about 1·7 lb. of grain per diem at the average of the district prices; this is eked out by small profits from the produce of one or two buffaloes, by the sale of yarn spun by the women at home, and by occasional labour for their richer neighbours. The latter resource is not, however, open to any considerable number of the pauper ryots in the poorer tracts. The whole aspect of the figures is that a vast majority of the ryots in most parts of the district lead a life of poverty, and must, at all times, be but little removed from a state of 'short commons.' Nevertheless, whilst observation confirms the general aspect of poverty, still it also shows that the people do not, in their appearance, record any signs of being in a chronic state of semi-starvation. It would appear also from these figures that the degree or proportion in which pauper ryots are to be found varies in much the same way as the results already arrived at as to the pressure of population on the soil, except in the Piápalle and Bellagal tracts.

The Ryots.—The remarks and data already given indicate pretty clearly the condition of the ryot in the district. It has been shown that live stock is fairly valuable and numerous but it is not at all evenly distributed, and many of the poorer ryots only own a single buffaloe or cow and a single bullock: his dead stock is small in quantity and not of great value; there remain his house and household goods, his clothing and his jewellery to be noticed. The ryot's house has already been described in the chapter devoted to live stock. With the poorer men and especially so in those parts of the district where good building stone is not procurable, these are little better than crowded hovels or cattle byres. Ill-lighted, undrained, unventilated, dirty, uncleansed, and not water-tight, furnaces in the hot weather and stifling black-holes when shut up in the cold, it is wonderful how the people manage to exist in them and develop a large proportion of fine men. The houses usually stand on a crowded village site, with narrow tortuous lanes separating irregular masses of them into blocks. The lanes are often full of holes and not properly drained, and thus become vile sloughs after heavy rain. On these sites usually there are to be seen many manure heaps, ruins of old houses, and here and there a well amongst the inhabited houses. The site has usually from long use and the habits of the people become foul and insanitary, and is drained partly by the wells from which they draw their water-supply, or into some neighbouring water-course, which may also be a source of drinking water-supply. Outside the village is the public latrine, a circle of greater or less diameter around the village

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according to its size. Near by are the manure heaps of those ryots who are not fortunate enough (as they think) to be able to keep their dung-heap at their door. Not far off is the spot where carcasses of animals that die are cast to rot, or be eaten by carrion feeders, human and others. A little further on will be seen the houses of the *Málás and Mádigás*, the outcasts of the community, whose houses are only one degree fouler than those of the *Kápu* or hereditary Sudra cultivator, who lives in the main village. These houses have the one advantage over those in the village of not being so crowded and being more airy. The inhabitants of them not infrequently are put to great straits in obtaining water owing to the objections of the *Kápús* and others to their using the ordinary village wells. The Kápu, however, is the typical ryot, and his is the home alluded to specially above.

Household gear is simple. The spindle has been noticed. A grain mortar and pestle, a few rough bedsteads, a few pots, and perhaps one or two brass vessels, and some grain baskets make up nearly the whole. Clothing is simple and differs little from that generally in use. The men commonly wear drawers instead of a waist cloth when working; sandals and cumblies are commonly worn or carried when required, and all are inexpressibly dirty; a man, woman or child who has clean clothing is a figure to be noted amongst a sea of dirt. Of jewellery there is not much to be seen; nor are there many other signs of wealth noticeable, but in this respect appearances are deceptive as the wealthiest and the poorest ryots in their homes do not appear to differ much in their clothing, household gear, or habits. A few of the richest have separate houses for their cattle and more extensive premises usually betoken greater wealth.

Regarding the indebtedness or otherwise of the ryot, no definite information can be obtained. General repute and general report are too often misleading. All that can be said is that a considerable number of ryots of all classes are practically only cultivating tenants for mortgagees; for once money is borrowed on landed security at such rates as 12, 18 or 24 per cent. per annum, unless the amount is extremely small in proportion to the value of the security mortgaged, it is impossible for any agricultural operations to repay it. The proportion of the ryots whose land is mortgaged is not apparently large in any part of the district, but everywhere a very large number, including the majority of the smaller holders, annually obtain advances against their prospective crops to carry them on from seed-time to harvest. These advances are made either by traders, or oftener by fellow-ryots of greater wealth. The normal rate of interest, which has to be paid at the time of harvest about 4 months later on, is 38 per cent., and if the advance and interest are not repaid then owing to a failure of crop, the debt continues, with the original principal and the interest doubled for repayment next year. It is easy to see that advances made at such rates in a country where agricultural operations are extremely precarious, may soon mount up to a very high figure, and force the ryot into mortgaging his holding to cover his debt. He then becomes the cultivating tenant of the local capitalist.

The Laborer—pure and simple, that is, the man who entirely depends on labor for support, does not form a large section of the community. Most families have a share in a patta, but there are some members of many who obtain the greater part of their livelihood by working for their richer neighbours; some regularly and others at harvest-time. The regular laborer is generally well off; he receives about 12 to 24 rupees in cash, is fed all the year round, and receives certain presents which bring his wage up to about Rs. 50 per annum. His wife may also earn a regular or occasional wage either by assisting in household work or by working in the fields at harvest. Labórers are usually engaged for the year at the *Sivarathri*. Occasional laborers are engaged as they are required. The ordinary wage for a daily laborer is 2 seers of grain, but as much as 3 or even 4 seers is given at harvest time. The supply of labor is usually adequate to all rural demands, but of late years the construction of the Bellary-Kistna State Railway has drawn largely on the supply and forced up rates near the places through which it runs. An ordinary cooly seldom earns more than two annas a day and women and children earn proportionately less.

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CHAPTER X.

THE AGRICULTURAL TRACTS.

In the following pages the particulars given in previous chapters have been brought together for each tract severally in the briefest possible form. In these notes each paragraph might have been expanded to a chapter, but the object in view has been to briefly summarise the facts already alluded to.

1. *The Kurnool tract* is situated in the western section of the district, and lies almost entirely on the gneiss formation of the Mysore plateau. The rock does not affect the soil much, and the latter is almost entirely *régada*. The tract is drained partly into the Tungabhadra direct and partly by the Hindri. It is an open bare plain bounded on the east by the Erramala, with a few detached rocky hills springing up in it. Two main roads pass through it, and it depends on the town of Kurnool as a centre of trade.

The tract contains 47 villages lying in the Ramallakót taluk, and has a total area of 167,286 acres, of which 23,387 or 14 per cent. is not available for cultivation; 6,385 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 143,899 acres, of which 143,069 acres are dry and 830 wet land. This area is divided as 67 per cent. Government, 3 per cent. lying in shrotriem villages, and 30 per cent. minor inam land. Of the Government land 9,198 acres dry and 112 acres wet, at an average assessment of As. 11-5 per acre dry and Rs. 4-1-9 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 14-6 per acre of dry and Rs. 4-15-1 per acre of wet land. Of the area under occupation, both Government and inam, 96 per cent., practically all dry land, is under cultivation; the average assessment per acre on the Government land being As. 14-8 for dry and Rs. 5-0-5 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 460 acres or 92 per cent. of the total irrigable area, and of this 416 acres or 90 per cent. for first crop and 159 acres or 35 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 2,181 or Rs. 5 per acre; but of the total demand 11 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 88,109 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10 ..	35	12	16	7	12	5 0		
From ,, 10 to 30 ..	25	11	34	20	32	17 7		
Do. ,, 30 to 50 ..	6	3	17	40	18	39 0		
Do. ,, 50 to 100 ..	4	2	18	68	20	70 3	3,445	1,255
Do. ,, 100 to 250 ..	1	1	12	138	14	145 8		
Do. ,, 250 to 500 ..	..	..	2	332	2	334 3		
Do. ,, 500 to 1,000 ..	..	..	1	504	2	619 0		
Total and average ..	71	29	100	21	100	19 8		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants, but rather ryots not residing in the village where they hold pattas. According to these figures the average holding of a ryot is at present 26 acres; the average area of each patta being 21 acres.

In this tract the population was 48,316 at the time of the last census, or 336 per 1,000 acres available for cultivation. Of every 1,000 head of population 501 were males and 918 illiterate. The water-supply for drinking purposes is generally obtained from the beds of streams and from wells, in which the supply is, though generally permanent, often brackish, especially in the wells.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 29 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is 4,249 and nearly double that of the cows found; sheep greatly exceed goats in number. The total amount of stock kept, calculated as cattle, is 24 per 100 acres occupied and 25 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 9 per cent. As regards dead stock, one ordinary plough is kept for every 39 acres under cultivation and one drill for every 40 acres. The proportion of three-rowed drills is about as 5 to 1 six-rowed drill. The number of sugar-mills in the tract is 1, of oil-mills 20, and indigo-vats 51; whilst one cart is kept for every 83 acres cultivated.

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In this tract the principal crops raised are cereals 85,714 acres and pulses 3,272 acres; but the latter are probably returned at least 1,500 acres below the reality. The chief cereals raised are late jonna on 35 per cent., korra on 17 per cent., and early jonna on 12 per cent.; and of the pulses, Bengal gram on 1 per cent. of the total area is sown alone; whilst other pulses, sown in mixtures, are represented as occupying only 1 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton on 19 per cent., castor on 3 per cent., other oil-seeds, of which linseed is the chief, on 2½ per cent., and indigo on nearly 3 per cent. of the total area; chillies occupying about 1 per cent. also. Information as to the time of putting in the crops is only available for 122,756 acres, but this shows that the area is sown as follows:

Month	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	23	18	12	24	21	1	1	100

The cropping of the tract is, therefore, dependent for sowing on both the early and later rains, and rainfall is most important about September.

Well-irrigation is not largely practised in this tract; there being only 86 wells and 66 doruvús, (of which, 41 are abandoned or only occasionally used), in 29 out of the total 47 villages, irrigating about 437 acres. These wells are worked chiefly during the months from August to November, and February to June, and the water-supply in them falls short in the hot weather. The soil of the tract is not generally suitable for irrigation, and the prospect of extending this form of irrigation is bad.

2. *The Bellagal tract* lies to the south-west of the first named and on the same formation. The soils are very varied, wide stretches of *régada* alternating with considerable areas of *erranèla*, which lie about the base of numerous rocky hills and ridges which break up the tract. Much of the tract lies along the banks of the Hindri, and although it is very bare of trees generally, it is not so much so as the Kurnool tract. The tract is not badly off for communications, but that portion of it which lies to the north of the Hindri needs to be opened out towards Adóni, on which town it depends for trade. The western extremity of it lies conveniently for access to the railway at Aspari station.

The tract contains 66 villages lying in the Pattikonda and the Ramallakót taluks, and has a total area of 355,160 acres, of which 64,485 or 18 per cent. is not available for cultivation; 39,989 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 290,675 acres, of which 287,380 acres are dry and 3,295 wet land. This area is divided as 74 per cent. Government, 1 per cent. lying in shrotriem villages, and 25 per cent. minor inam land. Of the Government land, 61,924 acres dry and 1,126 acres wet, at an average assessment of As. 9-4 per acre dry, Rs. 5-12-11 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 11-10 per acre of dry and Rs. 5-7-6 per acre of wet land. Of the area under occupation, both Government and inam, 93 per cent. nearly all dry land is under cultivation; the average assessment per acre on the Government land being As. 11-10 for dry and Rs. 5-6-8 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 1,585 acres or 69 per cent. of the total irrigable area, and of this 1,308 acres or 83 per cent. for first crop, and 329 acres or 21 per cent. for second crop, has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 7,145 or Rs. 5 per acre; but of the total demand 23 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 154,340 acres, of which the following is an abstract:

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	54	13	36	8	27	4 8	8,979	1,632
From ,, 10 to Rs. 30 ..	19	7	37	20	39	16 10		
Do. ,, 30 to ,, 50 ..	3	1	13	39	16	37 0		
Do. ,, 50 to ,, 100 ..	2	1	10	62	13	65 11		
Do. ,, 100 to ,, 250 ..	..	..	4	123	5	119 12		
Do. ,, 250 to ,, 500 ..	..	..	..	177	..	422 0		
Do. ,, 500 to ,, 1,000 ..	..	..	..	..	..	..		
Total and average ..	78	22	100	14	100	11 2		

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The number of sub-tenants returned is not at all accurate, owing to defects noted regarding the Kurnool tract. According to these figures, the average holding of a ryot is at present 17 acres; the average area of each patta being 14 acres.

In this tract the population was 60,026 at the time of the last census, or 207 per 1,000 acres available for cultivation. Of every 1,000 head of population, 517 were males and 964 illiterate. The water-supply for drinking purposes is generally obtained also from the beds of streams and wells, in which the supply is generally permanent, but in the wells often of bad quality.

The tilling cattle usually kept are both of the Nellore and local breeds, and a pair is able to keep 23 acres under cultivation. The breeding stock is chiefly composed of cows, but the number kept does not greatly exceed that of she-buffaloes; sheep greatly exceed goats in number. The total amount of stock kept, calculated as cattle, is 26 per 100 acres occupied and 27 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 10 per cent. As regards dead stock, one ordinary plough is kept for every 28 acres under cultivation and one drill for every 39 acres. The proportion of three-rowed drills is about as 21 to 1 six-rowed drill. The number of oil-mills in the tract is 12 and indigo-vats 43; whilst one cart is kept for every 98 acres cultivated.

In this tract the principal crops raised are cereals 152,852 acres and pulses 10,919 acres, but the latter are probably returned at least 5,000 acres below the reality. The chief cereals raised are early jonna on 26, korra on 22, late jonna on 16, and sazza on 8 per cent; and of the pulses, horse-gram is returned as occupying 2 per cent. and Bengal gram 1 per cent., and those sown in mixtures 3 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton on 10 per cent. and castor on 5½ per cent. of the total cropped area; chillies occupying about 1 per cent. also. Information as to the time of putting in the crops is only available for 199,567 acres, but this shows that the area is sown as follows:

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	49	19	10	8	11	2	1	100

The cropping of the tract is, therefore, dependent for sowing on the early rains, and the rainfall is much needed before September.

Well-irrigation is not largely practised in this tract, there being only 596 wells and 107 doruvûs, (of which 155 are abandoned or only occasionally used), in 59 out of the total 66 villages, irrigating about 1,880 acres. These wells are worked chiefly during the months from August to November and February to June, and the water-supply in them usually fails in the wells during the hot weather. The soil of the tract is not generally suitable for irrigation, and the prospect of extending this form of irrigation is poor.

3. *The Hosur tract* lies on the extreme western border of the district towards Bellary and in a bare open plain of *régada* soils, well furnished with roads and convenient to the railway.

The tract contains 10 villages lying in the Pattikonda taluk, and has a total area of 74,847 acres, of which 5,620 or 8 per cent. is not available for cultivation; 1,311 acres being reserved for village forests and grazing reserves and the remainder as poramboke. The arable area is 69,227 acres, of which 68,981 acres are dry and 246 wet land. This area is divided as 71 per cent. Government and 29 per cent. minor inam land. Of the Government land 12,222 acres dry and 49 acres wet, at an average assessment of Rs. 1-4-10 per acre dry and Rs. 5-12-1 per acre wet, remain available for occupation, the average assessment of the occupied land being Rs. 1-1-7 per acre of dry and Rs. 6-0-4 per acre of wet land. Of the area under occupation, both Government and inam, 91 per cent., of which there is scarcely any wet land, is under cultivation; the average assessment per acre on the Government land being Rs. 1-1-8 for dry and Rs. 5-12-11 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 138 acres only or 68 per cent. of the total irrigable area, and of this 94 acres, or 68 per cent. for first crop and 4 acres or 3 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 729 or Rs. 8 per acre; but of the total demand 51 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 35,084 acres, of which the following is an abstract:—

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Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	41	10	20	6	14	5 2	1,701	639
From ,, 10 to 30 ..	22	8	30	16	27	17 3		
,, ,, 30 to 50 ..	7	3	18	29	20	37 12		
,, ,, 50 to 100 ..	5	2	21	49	25	68 14		
,, ,, 100 to 250 ..	1	1	9	87	11	127 4		
,, ,, 250 to 500 ..	...	..	1	235	2	345 8		
,, ,, 500 to 1,000 ..	..	..	1	259	1	529 0		
Total and average ..	76	24	100	16	100	19 0		

The number of sub-tenants returned is not at all accurate, owing to defects already noticed. According to these figures the average holding of a ryot is at present 21 acres; the average area of each patta being 16 acres.

In this tract the population was 14,513 at the time of the last census, or 210 per 1,000 acres available for cultivation. Of every 1,000 head of population, 512 were males and 951 illiterate. The water-supply for drinking purposes is generally obtained from wells, of which there are very few in the tract, and in which the supply is generally bad and the quality of the water poor.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 32 acres under cultivation. The breeding stock is chiefly composed of cows, but the number of she-buffaloes kept is nearly equal, the total being small; sheep considerably exceed goats in number. The total amount of stock kept, calculated as cattle, is 16 per 100 acres occupied and 18 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 6 per cent. As regards dead stock, one ordinary plough is kept for every 44 acres under cultivation and one drill for every 57 acres. The proportion of three-rowed drills is about as 29 to 1 six-rowed drill. The number of oil-mills in the tract is 3 and indigo-vats 14; whilst one cart is kept for every 115 acres cultivated.

In this tract the principal crops raised are cereals 38,786 acres and pulses 2,283 acres, but the latter are probably returned somewhat below the reality. The chief cereals raised are late jonna on 34, korra on 20, and early jonna on 20 per cent.; and of the pulses, horse-gram and Bengal gram occupy together about 1½ per cent., and those sown in mixtures are said to take up 2½ per cent. of the total area. Besides these the following industrial and other crops occupy an important position:—Cotton 17 per cent. and castor 2 per cent. of the total area. Information as to the time of putting in the crops is only available for 52,686 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	21	10	23	23	14	8	1	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the later rains, although a fair area is put in early.

Well-irrigation is scarcely at all practised in this tract, there being only 114 wells, (of which 15 are abandoned or occasionally used), in 7 out of the total 10 villages, irrigating about 317 acres. These wells are worked chiefly during the months from August to November and February to June and the water-supply in them soon fails. The soil of the tract is unsuitable for irrigation, and the prospect of extending this form of irrigation is bad.

4. *The Piápalle tract* is surrounded on the west and north by the two last-named tracts, and on the east abuts on the Erramalas. This is the last of those tracts lying on the gneiss which form the western section of the district. It is much broken up by rocky hills and ridges, and the prevailing soil is *erranéla*, a few small patches of *régada* occurring on its borders. A small portion of it drains into the Pennér basin, but the greater part into the Hindri. The soils are poor and thin, except in the bottoms, and the tract suffers very early from deficient rainfall. The tract lies in an easily accessible position for receiving supplies of grain, two good roads run along its eastern and its south-western borders with access to Gooty, whilst the Bellary-Kistna State Railway approximately bisects it in its least accessible portion, but needs feeder roads.

The tract contains 63 villages lying in the Pattikonda and the Ramallakót taluks, and has a total area of 417,069 acres, of which 122,064 acres or 29 per cent. is not available for cultivation; 70,471 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 295,005 acres, of which 288,467 acres are dry and 6,538 wet land. This area is divided as 76 per cent. Government, 3 per cent. lying in shrotriem villages, and 21

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per cent. minor inam land. Of the Government land, 98,499 acres dry and 1,954 acres wet, at an average assessment of Annas 7-3 per acre dry and Rs. 5-1-6 per acre wet, remain available for occupation, the average assessment of the occupied land being Annas 7-11 per acre of dry and Rs. 5-5-9 per acre of wet land. Of the area under occupation, both Government and inam, 89 per cent. dry and 1 per cent. wet is under cultivation; the average assessment per acre on the Government land being Annas 8-1 for dry and Rs. 5-8-7 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 4,621 acres or 69 per cent. of the total irrigable area and of this 3,469 acres or 75 per cent. for first crop and 515 acres or 11 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 17,970 or Rs. 5 per acre; but of the total demand 37 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 116,833 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	61	14	51	10	38	4 8	7,695	1,570
From „ 10 to 30 ..	16	5	37	25	41	17 7		
„ „ 30 to 50 ..	2	1	6	35	10	36 4		
„ „ 50 to 100 ..	1	..	4	47	8	66 3		
„ „ 100 to 250 ..	..	..	2	156	3	143 11		
„ „ 250 to 500 ..	..	..	..	..	..	..		
„ „ 500 to 1,000 ..	..	..	..	593	..	593 0		
Total and average ..	80	20	100	14	100	8 14		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants, but rather ryots not residing in the village where they hold pattas. According to these figures the average holding of a ryot is at present 15 acres; the average area of each patta being 14 acres.

In this tract the population was 49,251 at the time of the last census, or 167 per 1,000 acres available for cultivation. Of every 1,000 head of population, 524 were males and 962 illiterate. The water-supply for drinking purposes is generally obtained from ponds, streams and wells, in which the supply is precarious and very bad in a few places.

The tilling cattle usually kept are of local breeds, and a pair is able to keep 18 acres under cultivation. The breeding stock is chiefly composed of cows, and the number kept is nearly double that of the she-buffaloes; sheep are about double the goats in number. The total amount of stock kept, calculated as cattle, is 35 per 100 acres occupied and 40 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 13 per cent. As regards dead stock, one ordinary plough is kept for every 20 acres under cultivation, and one drill for every 30 acres. The proportion of three-rowed drills is about as 89 to 1 six-rowed drill. The number of oil-mills in the tract is 5 and indigo-vats 5; whilst one cart is kept for every 87 acres cultivated.

In this tract the principal crops raised are cereals 94,336 acres and pulses 16,240 acres, but the latter are probably returned at least 20,000 acres below the reality. The chief cereals raised are early jonna on 46 per cent. and korra on 11 per cent.; and of the pulses, horse-gram occupies about 6 per cent., and those sown in mixtures are said to account for about 5·5 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton on 2·5 per cent, castor on 18 per cent. of the total area. Information as to the time of putting in the crops is only available for 146,751 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent. ..	72	13	6	5	2	1	1	100

The cropping of the tract is, therefore, dependent for sowing on the early rains and the crops feel any irregularity in the rainfall very soon.

Well-irrigation is not largely practised in this tract, there being 726 wells and 14 doruvus (of which 173 are abandoned or occasionally used) in 59 out of the total 63 villages, irrigating about 1,455 acres. These wells are worked chiefly during the months from August to November and February to June, and the water-supply in them often fails in the dry weather. The soil of the tract is fairly suitable for irrigation, but the prospect of extending this form of irrigation is poor as the under-ground supply of water is bad and the cost of well-sinking great.

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5. *South Erramala* tract is composed of a few deep valleys, in which lie fertile soils of light and medium character and high table-lands where *régada* often occurs. On the slopes and tops of the hills there is a good deal of scrub jungle and a wide extent of grazing land. The table-land is formed of the 'Kaddapah' rocks, usually of a most intractable nature. The tract is drained into the Pennér, most of the drainage first passing into the Kundér. It extends from the border of the district towards Anantapur to a line of fault crossing the Erramala near Piápalle. The only road of any service to the tract skirts its northern boundary, and the table-lands are nearly inaccessible by cart, as also are many of the valleys.

The tract contains 17 villages lying in the Pattikonda and the Koilkuntla taluks, and has a total area of 126,112 acres, of which 64,353 acres or 51 per cent. is not available for cultivation; 10,830 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 61,759 acres, of which 60,226 acres are dry and 1,533 wet land. This area is divided as 70 per cent. Government, and 30 per cent. minor inam land. Of the Government land, 15,427 acres dry and 134 acres wet, at an average assessment of As. 6-9 per acre dry and Rs. 4-13-3 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 10-10 per acre of dry and Rs. 5-9-3 per acre of wet land. Of the area under occupation, both Government and inam, 88 per cent. dry and 3 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 11-1 for dry and Rs. 5-12-0 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 1,506 acres or 83 per cent. of the total irrigable area, and of this 1,420 acres or 94 per cent. for first crop and 447 acres or 30 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 6,032 or Rs. 4 per acre; but of the total demand 15 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 28,723 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total	Average per putta.	Per cent. of total	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	63	15	51	6	38	3 14		
From ,, 10 to 30 ..	12	6	35	19	39	17 0		
,, ,, 30 to 50 ..	2	1	8	31	11	37 8		
,, ,, 50 to 100 ..	1	..	4	48	7	69 4	2,777	415
,, ,, 100 to 250 ..	..	..	1	78	3	138 6		
,, ,, 250 to 500 ..	..	..	1	344	2	417 0		
,, ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	78	22	100	10	100	715		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them already noted. According to these figures the average holding of a ryot is at present 10 acres; the average area of each putta being 10 acres.

In this tract the population, was 15,929 at the time of the last census, or 258 per 1,000 acres available for cultivation Of every 1,000 head of population, 525 were males and 967 illiterate. The water-supply for drinking purposes is generally obtained from streams, springs, and wells, in which the supply is usually good, although in one or two places the water has to be carried a long distance.

The tilling cattle usually kept are of local breeds, and a pair is able to keep 15 acres under cultivation. The breeding stock is chiefly composed of cows, and the number kept is nearly 25 per cent. in excess of that of the she-buffaloes; sheep do not much exceed goats in number. The total amount of stock kept, calculated as cattle, is 56 per 100 acres occupied and 62 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 17 per cent. As regards dead stock, one ordinary plough is kept for every 18 acres under cultivation, and one drill for every 22 acres. The proportion of three-rowed drills is about as 8 to 1 six-rowed drill. The number of oil-mills in the tract is 2 and indigo-vats 5; whilst one cart is kept for every 50 acres cultivated.

In this tract the principal crops raised are cereals 31,089 acres and pulses 3,645 acres but the latter are probably returned at least 2,000 acres below the reality. The chief cereals raised are early jonna on 47·7 per cent. and korra on 24·7 per cent.; and of the pulses, horse-gram on 5 per cent., Bengal-gram on 2 per cent., and those sown in mixtures are said to take up only 2 per cent., of the total area. Besides these, the following industrial and other crops occupy an important position:—Castor on 6 per cent., cotton on nearly 4 per cent., indigo on nearly 2 per cent., and tobacco on ·5 per cent. of the total area. Information as to the time of putting in the crops is only available for 38,844 acres, but this shows that the area is sown as follows:—

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Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	57	21	12	5	4	1	100

The cropping of the tract is, therefore, dependent for sowing on the early rains and the slightest failure of this would be severely felt.

Well-irrigation is not largely practised in this tract, there being 194 wells, (of which 33 are rarely, if ever, used) in the 17 villages irrigating about 551 acres. These wells are worked chiefly during the months from August to November and February to June, and the water-supply in them rarely fails. The soil of the tract is suitable for irrigation, and the prospect of extending this form of irrigation is fair in parts.

6. *The North Erramala* tract is not so elevated as the 'South,' and unlike the latter, which is a nearly rectangular mass, is very irregular in shape, and throws out a long limb to the east in the Nandyâl taluk. In this tract also waste land and scrub jungle abounds, but usually the valleys are not so wide, nor is the soil so fertile generally as in the southern tract. The geological formation is the same. The soils are more commonly light, often very stony, but occasional patches of *régada* occur. Towards the north, the elevation of the plateau gradually decreases. Diagonally across the southern part of the tract runs the Bellary-Kistna railway in its passage over the Erramala range, and further north a parallel road is being constructed, whilst the limb alluded to above is separated from the main mass of the tract by the high road from Nandyál to Kurnool.

The tract contains 34 villages lying in the Ramallakot and the Nandyál taluks, and has a total area of 256,950 acres, of which 131,390 acres or 51 per cent. is not available for cultivation; 46,253 acres being reserved for village forests and grazing reserves, and the remainder as porambоke. The arable area is 125,560 acres, of which 124,265 acres are dry and 1,295 wet land. This area is divided as 66 per cent. Government, 1 per cent. lying in shrotriem villages, and 33 per cent. minor inam land. Of the Government land, 17,077 acres dry and 39 acres wet, at an average assessment of As. 8-3 per acre dry and Rs. 4-13-11 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 12-4 per acre of dry and Rs. 5-0-4 per acre of wet land. Of the area under occupation, both Government and inam, 88 per cent. dry and 1 per ent. wet is under cultivation; the average assessment per acre on the Government land being As. 12-9 for dry and Rs. 5-3-2 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 1,476 acres or 91 per cent. of the total irrigable area, and of this 1,406 acres or 95 per cent. for first crop and 654 acres or 44 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 7,894 or Rs. 6 per acre; but of the total demand 5 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 52,104 acres, of which the following is an abstract :—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				ACRES.		RS. A.		
Under Rs. 10	54	19	41	6	30	3 13		
From ,, 10 to Rs. 30..	13	9	35	17	38	15 13		
,, ,, 30 to ,, 50..	2	2	10	31	14	37 3		
,, ,, 50 to ,, 100..	1	..	7	55	10	65 0	4,813	1,181
,, ,, 100 to ,, 250..	..	..	3	111	5	134 10		
,, ,, 250 to ,, 500..	..	..	..	..	..	..		
,, ,, 500 to ,, 1,000..	..	..	..	..	..	..		
Above 1,000	..	..	4	1,889	3	1,175 0		
Total and average ..	70	30	100	11	100	9 3		

The number of sub-tenants returned is not at all accurate, owing to the defects noted above for other tracts. According to these figures the average holding of a ryot is at present 11 acres; the average area of each patta being 11 acres.

In this tract the population was 29,200 at the time of the last census, or 233 per 1,000 acres available for cultivation. Of every 1,000 head of population, 520 were males and 954 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells, in which the supply is good in some and poor in other villages. In some places the wells are very deep.

The tilling cattle usually kept are bred locally, though some Nellores are found, and a pair is able to keep 18 acres under cultivation. The breeding stock is chiefly composed of she-

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buffaloes, and the number kept is large and slightly in excess of that of the cows; sheep do not exceed goats in number. The total amount of stock kept, calculated as cattle, is 41 per 100 acres occupied and 46 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 12 per cent. As regards dead stock, one ordinary plough is kept for every 20 acres under cultivation and one drill for every 21 acres. The proportion of three-rowed drills is about as 4 to 1 six-rowed drill. The number of sugar-mills in the tract is 23 and indigo-vats 26; whilst one cart is kept for every 49 acres cultivated.

In this tract the principal crops raised are cereals 56,310 acres and pulses 6,404 acres, but the latter are probably returned at least 3,000 acres below the reality. The chief cereals raised are early jonna on nearly 37, korra on 21, and late jonna on 8 per cent.; and of the pulses, horse-gram on 4 per cent., Bengal gram on 2 per cent., and those sown in mixtures are said to take up nearly 2 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Castor about 10 per cent., cotton 6 per cent., tobacco about 2 per cent., and indigo 1 per cent. of the total area. Information as to the time of putting in the crops is only available for 81,135 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	46	19	12	16	6	1	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the early rains, and would feel a failure of them at once.

Well-irrigation is not largely practised in this tract, there being 122 wells and 37 doruvús, (of which 35 are abandoned or occasionally used) in 17 out of the total 34 villages, irrigating about 283 acres. These wells are worked chiefly during the months from August to November and February to April and sometimes to June, and the water-supply in them does not often fail. The soil of the tract is fairly suitable for irrigation, and the prospect of extending this form of irrigation is fair in parts, where there are already wells, but bad elsewhere.

7. *The Nannur tract* covers the extreme northern end of the out-crop of the 'Kaddapah' rocks, and extends up to the Tungabhadra river. It is more open and less jungly than the tracts on these rocks further south, and the soils are usually deeper and of better quality, and, though occasionally patches of gravelly soil occur, a large area is covered with *régada* and *masabu* soils. The tract is close to and easily accessible from the town of Kurnool, and is crossed by two good made-roads.

The tract contains 22 villages lying in the Ramallakót, Nandikótkur and the Nandyál taluks, and has a total area of 85,672 acres, of which 24,171 or 28 per cent. is not available for cultivation; 8,207 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 61,501 acres, of which 61,097 acres are dry and 404 wet land. This area is divided as 58 per cent. Government, 2 per cent. lying in shrotriem villages, and 40 per cent. minor inam land. Of the Government land, 4,008 acres dry and 37 acres wet, at an average assessment of As. 13-2 per acre dry and Rs. 4-7-9 per acre wet, remain available for occupation, the average assessment of the occupied land being Rs. 1-3-6 per acre of dry and Rs. 6-5-11 per acre of wet land. Of the area under occupation, both Government and inam, 94 per cent. dry and 1 per cent. wet is under cultivation; the average assessment per acre on the Government land being Rs. 1-3-9 for dry and Rs. 6-5-10 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 423 acres only or 95 per cent. of the total irrigable area, and of this 411 acres or 97 per cent. for first crop and 115 acres or 27 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 2,061 or Rs. 5 per acre; but of the total demand 4 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 30,999 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	35	16	16	5	11	4 10	1,810	598
From ,, 10 to 30 ..	19	13	28	15	26	16 15		
Do. ,, 30 to 50 ..	5	3	13	29	14	37 12		
Do. ,, 50 to 100 ..	3	3	18	48	20	66 14		
Do. ,, 100 to 250 ..	2	1	19	106	21	145 11		
Do. ,, 250 to 500 ..	..	..	4	209	5	304 8		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Above 1,000	..	..	2	644	3	1,012 0		
Total and average ..	64	36	100	17	100	20 12		

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The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants, but rather ryots not residing in the village where they hold pattas. According to these figures, the average holding of a ryot is at present 17 acres; the average area of each patta being 17 acres.

In this tract the population was 16,286 at the time of the last census, or 265 per 1,000 acres available for cultivation. Of every 1,000 head of population, 508 were males and 957 illiterate. The water-supply for drinking purposes is generally obtained from wells, in which the supply is fair, though not infrequently brackish.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 24 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes and the number kept is 60 per cent. in excess of that of the cows; sheep exceed goats in number by about 39 per cent. The total amount of stock kept, calculated as cattle, is 29 per 100 acres occupied and 32 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 11 per cent. As regards dead stock, one ordinary plough is kept for every 28 acres under cultivation and one drill for every 25 acres. The proportion of three-rowed drills is about as 4 to 1 six-rowed drill. The number of sugar-mills in the tract is 5, of oil-mills 1, and indigo-vats 36; whilst one cart is kept for every 60 acres cultivated.

In this tract the principal crops raised are cereals 32,238 acres and pulses 4,150 acres, but the latter are probably returned at least 2,000 acres below the reality. The chief cereals raised are late jonna on 27, early jonna on 17, and korra on 14 per cent.; and of the pulses, Bengal gram on 3 per cent., horse-gram on 1 per cent., and those sown in mixtures are said to take up 4 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton 19 per cent., castor and indigo 3 per cent. each, and tobacco 2 per cent. of the total area; chillies occupying 2 per cent. also. Information as to the time of putting in the crops is only available for 52,170 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	25	15	17	32	9	1	1	100

The cropping of the tract is, therefore, not entirely dependent for sowing on either the early or later rains, and is therefore much safer.

Well-irrigation is not largely practised in this tract, there being 86 wells, (of which 21 are abandoned or occasionally used) in 14 out of the total 22 villages, irrigating about 260 acres. These wells are worked chiefly during the months from August to November and February to April and sometimes to June, and the water-supply in them rarely fails. The soil of the tract is not generally suitable for irrigation, and the prospect of extending this form of irrigation is poor.

8. *The Nandikóktur tract* is a wide open plain, unbroken by any hills, which covers the water parting between the Kistna and the Kundér, including a small portion of the valley of the Bhavanási. It is underlain by part of the Kurnool rocks, which, in some places, are but poorly covered with soil and owing to the angle at which they lie interfere seriously with the natural drainage. The soils are alternations of open *maidans* of *baraka*, and wide stretches of *régada*, in a few places *masabu* and *tuvva* also appearing. The Kurnool-Cuddapah canal runs round the whole tract, in which it irrigates a fair amount of land. The tract is also crossed through its greatest length by a good main road from Kurnool, and there are numerous pieces of famine road of value in it. The tract is very bare of trees.

The tract contains 75 villages, lying in the Nandikótkur and Nandyál taluks, and has a total area of 335,036 acres, of which 68,517 or 20 per cent. is not available for cultivation; 34,381 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 266,519 acres, of which 265,769 acres are dry and 750 wet land. This area is divided as 69 per cent. Government, 1 per cent. lying in shrotriem villages, and 30 per cent. minor inam land. Of the Government land, 60,914 acres dry and 46 acres wet, at an average assessment of As. 11-4 per acre dry and Rs. 5-14-3 per acre wet, remain available for occupation, the average assessment of the occupied land being Rs. 1-1-10 per acre of dry and Rs. 6-5-1 per acre of wet land. Of the area under occupation, both Government and inam, 92 per cent. almost entirely dry land is under cultivation; the average assessment per acre on the Government land being Rs. 1-2-3 for dry and Rs. 6-4-5 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is only 373 acres or 87 per cent. of the total irrigable area, and of this 368 acres or 99 per cent. for first crop and 79 acres or 21 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 2,177 or Rs. 6 per acre; but of the total demand 3 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 126,052 acres, of which the following is an abstract:—

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Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	38	17	19	6	14	4 10	6,757	2,254
From ,, 10 to 30 ..	20	11	30	17	28	17 3		
Do. ,, 30 to 50 ..	5	3	16	32	17	37 14		
Do. ,, 50 to 100 ..	3	1	16	53	18	68 3		
Do. ,, 100 to 250 ..	1	1	15	107	18	146 5		
Do. ,, 250 to 500 ..	..	..	3	218	4	313 5		
Do. ,, 500 to 1,000 ..	..	..	1	389	1	584 0		
Total and average ..	67	33	100	16	100	18 4		

The number of sub-tenants returned is not at all accurate, owing to defects already noted. According to these figures the average holding of a ryot is at present 19 acres; the average area of each patta being 16 acres.

In this tract the population was 52,896 at the time of the last census, or 198 per 1,000 acres available for cultivation. Of every 1,000 head of population, 507 were males and 948 illiterate. The water-supply for drinking purposes is generally obtained from wells, in which the supply is generally good and permanent.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 24 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is 37 per cent. more than that of the cows; sheep considerably exceed goats in number. The total amount of stock kept, calculated as cattle, is 30 per 100 acres occupied and 33 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 10 per cent. As regards dead stock, one ordinary plough is kept for every 30 acres under cultivation and one drill for every 26 acres. The proportion of three-rowed drills is about as 3 to 1 six-rowed drill. The number of oil-mills in the tract is 14 and indigo-vats 210; whilst one cart is kept for every 54 acres cultivated.

In this tract the principal crops raised are cereals 131,340 acres and pulses 13,846 acres, but the latter are probably returned at least 7,000 acres below the reality. The chief cereals raised are late jonna on 27, korra on 20, early jonna on 12½, and arika 7 per cent.; and of the pulses, horse-gram on 4 per cent. and those sown in mixtures on 3 per cent. of the total area. Besides these the following industrial and other crops occupy an important position:—Cotton 9 per cent., indigo 8 per cent., castor 4 per cent., and tobacco about 1 per cent. of the total area, omum and chillies each occupying 1 per cent. also. Information as to the time of putting in the crops is only available for 175,814 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	21	26	12	28	12	1	100

The cropping of the tract is, therefore, dependent for sowing on both the early and the later rains and the safer in consequence.

Well-irrigation is not largely practised in this tract, there being 576 wells and 32 doruvús, (of which 256 are abandoned or only occasionally used) in 71 out of the total 75 villages, irrigating about 635 acres. These wells are worked chiefly during the months from September to June, and the water-supply in them usually fails in the hot weather. The soil of the tract is generally unsuitable for irrigation, and the prospect of extending this form of irrigation is bad.

9. *The Atmakúr tract* lies along the foot of the Nallamalas about the junction between the Cuddapah and Kurnool rocks. It is drained by the Bhavanási and possesses a fair number of tanks. It is better wooded than most of the tracts previously referred to, and is covered with a considerable area of *tuvva* soils mixed upon with patches of *régada* and *baraka*; but there is not much of the latter. The accessibility of the whole tract to the jungles and the wide areas of waste land at the foot of the hills encourages the keeping of stock, but there are difficulties in places in finding a supply of water. The main road from Kurnool through Nandikótkur extends into this tract, and a new one is being made to connect it with the Bellary-Kistna railway at Nandyál.

The tract contains 19 villages lying in the Nandikótkur taluk, and has a total area of 175,809 acres, of which 65,237 or 37 per cent. is not available for cultivation; 49,979 acres

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being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 110,572 acres, of which 105,005 acres are dry and 5,567 wet land. This area is divided as 83 per cent. Government, 2 per cent. lying in shrotriem villages, and 15 per cent. minor inam land. Of the Government land 16,502 acres dry and 1,091 acres wet, at an average assessment of As. 13-11 per acre dry and Rs. 5-0-4 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 14-9 per acre of dry and Rs. 5-2-4 per acre of wet land. Of the area under occupation, both Government and inam, 85 per cent. dry and 8 per cent wet is under cultivation; the average assessment per acre on the Government land being As. 14-10 for dry and Rs. 5-2-4 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 4,631 acres or 82 per cent. of the total irrigable area, and of this 4,497 acres or 97 per cent. for first crop, and 13 acres or 0·3 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 14,828 or Rs. 3 per acre; but of the total demand 5 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 32,603 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent of total.	Average per patta.	Per cent of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	41	16	27	5	20	5 0		
From ,, 10 to 30 ..	22	10	39	14	39	16 12		
Do. ,, 30 to 50 ..	5	1	15	28	18	37 5		
Do. ,, 50 to 100 ..	3	1	15	46	17	65 8	1,842	884
Do. ,, 100 to 250 ..	1	..	4	75	6	125 3		
Do.. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	72	28	100	12	100	14 0		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants. According to these figures the average holding of a ryot is at present 18 acres; the average area of each patta being 12 acres.

In this tract the population was 14,520 at the time of the last census, or 131 per 1,000 acres available for cultivation. Of every 1,000 head of population, 500 were males and 948 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells, in which the supply is generally good and permanent, though in one village it fails in the hot weather.

The tilling cattle usually kept are locally bred, although some Nellores are found, and a pair is able to keep 17 acres under cultivation. The breeding stock is chiefly composed of cows and the number kept is 39 per cent. greater than that of the she-buffaloes; sheep nearly equal the goats in number. The total amount of stock kept, calculated as cattle, is 44 per 100 acres occupied and 49 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 12 per cent. As regards dead stock, one ordinary plough is kept for every 21 acres under cultivation and one drill for every 19 acres. The proportion of three-rowed drills is about as 8 to 1 six-rowed drill. The number of oil-mills in the tract is 2 and indigo-vats 24; whilst one cart is kept for every 46 acres cultivated.

In this tract the principal crops raised are cereals 31,536 acres and pulses 6,443 acres, but the latter are probably returned at least 4,000 acres below the reality. The chief cereals raised are late jonna on 23, arika on 22, korra on nearly 12, irrigated paddy on nearly 10 per cent.; and of the pulses, horse-gram on 13 per cent. and those sown in mixtures on 2 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton and indigo nearly 3 per cent. each, and castor 1 per cent. of the total area; omum occupying two per cent. also. Information as to the time of putting in the crops is only available for 41,142 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	21	29	10	24	15	1	100

The cropping of the tract is, therefore, not dependent for sowing on either the early or later rains.

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Well-irrigation is not largely practised in this tract, there being only 92 wells (of which 47 are abandoned or occasionally used) in 10 out of the total 19 villages, irrigating about 96 acres. These wells are worked chiefly during the months from November to June and the water-supply in them seldom fails. The soil of the tract is generally suitable for irrigation, but the prospect of extending this form of irrigation is fair in only a few places, as it is uncertain where water may be struck.

10. *The Nallamala* tract is very similarly situated to the last named, lying along the foot of the hills of that name in the Nandyál and Sirvel taluks. It drains into the Kundér, but, in all other respects, as to soils, tanks and appearance, resembles the Atmakúr tract. No roads run through the tract, except that from Cumbum to Nandyál, which crosses it at almost the middle of its greatest length, but the Kurnool-Cuddapah canal skirts it, and might probably be easily made to furnish supplies of water to the numerous tanks that exist along the foot of the hills.

The tract contains 42 villages, lying in the Nandyál and the Sirvel taluks, and has a total area of 210,132 acres, of which 88,510 or 42 per cent. is not available for cultivation; 71,661 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 121,622 acres, of which 116,602 acres are dry and 5,020 wet land. This area is divided as 72 per cent. Government, and 28 per cent. minor inam land. Of the Government land 21,603 acres dry and 301 acres wet, at an average assessment of As. 13-1 per acre dry and Rs. 4-7-0 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 13-10 per acre of dry and Rs. 4-10-9 per acre of wet land. Of the area under occupation, both Government and inam, 82 per cent. dry and 5 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 14-5 for dry and Rs. 5-4-11 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 6,733 acres or 90 per cent. of the total irrigable area, and of this 6,571 acres or 98 per cent. for first crop and 367 or 5 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 23,422 or Rs. 4 per acre; but of the total demand 3 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 63,630 acres, of which the following is an abstract:

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	52	19	35	5	31	4 5		
From ,, 10 to 30 ..	16	7	36	17	36	16 0		
,, ,, 30 to 50 ..	3	1	13	34	15	36 1		
,, ,, 50 to 100 ..	1	1	10	58	11	67 1	5,804	2,340
,, ,, 100 to 250 ..	..	..	6	120	7	137 8		
,, ,, 250 to 500 ..	..	..	..	..	..	..		
,, ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	72	28	100	10	100	9 14		

The number of sub-tenants returned is not at all accurate, owing to defects in the system as already noted. According to these figures the average holding of a ryot is at present 11 acres, the average area of each patta being 10 acres.

In this tract the population was 30,176 at the time of the last census or 248 per 1,000 acres available for cultivation. Of every 1,000 head of population, 506 were males and 943 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is usually good.

The tilling cattle usually kept are of the Nellore breed or locally bred, and a pair is able to keep 19 acres under cultivation. The breeding stock is chiefly composed of cows and she-buffaloes, and the number of the latter kept is nearly 50 per cent. greater than that of the former; sheep greatly exceed goats in number. The total amount of stock kept, calculated as cattle, is 32 per 100 acres occupied and 36 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 9 per cent. As regards dead stock, one ordinary plough is kept for every 21 acres under cultivation and one drill for every 21 acres. The proportion of three-rowed drills is about as 2 to 1 six-rowed drill. The number of sugar-mills in the tract is 11, of oil-mills 2, and indigo-vats 38; whilst one cart is kept for every 37 acres cultivated.

In this tract the principal crops raised are cereals 54,936 acres and pulses 7,819 acres, but the latter are probably returned at least 3,000 acres below the reality. The chief cereals raised

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are arika about 32 per cent., late jonna on 14½, korra on 11, and irrigated paddy nearly on 9 per cent.; and of the pulses, horse-gram on 10 per cent. and other pulses on ·4 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton 11 and indigo 3 per cent. of the total area cropped, chillies occupying 1·4 per cent. also. Information as to the time of putting in the crops is only available for 74,684 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	21	25	21	23	8	2	100

The cropping of the tract is, therefore, dependent for sowing on both the early and later rains, and is fairly distributed over four months.

Well-irrigation is not largely practised in this tract, there being 246 wells (of which 157 are abandoned or occasionally used) in 29 out of the total 42 villages, irrigating about 203 acres. These wells are worked chiefly during the months from November to June, and the water-supply in them seldom fails. The soil of the tract is suitable for irrigation, but the prospect of extending this form of irrigation is generally poor, though fair in a few places, and irrigation from the canal is available in some of the most favored spots.

11. *The Kundér* tract fills up the centre of the Nandyál valley, and is a wide open plain of *régada* soils, lying on the Kurnool rocks. The country is rich and fertile, and the people comparatively prosperous. Few trees are to be seen, and the villages cluster along the main water-courses, and irrigation is confined to one or two tanks. The tract is drained entirely by the Kundér, and properly extends over a part at least of the Native State of Banganapalle. Two roads and the Bellary-Kistna railway cross it near Nandyál, and another skirts its eastern border through nearly 40 miles of its length, whilst the Kurnool-Cuddapah canal runs through the whole of its length, but is of little use for irrigation or navigation. The tract greatly needs to be opened up by roads, the making of which is, however, most expensive in it, owing to the nature of the soil. A new road is under construction through its greatest length.

The tract contains 137 villages, lying in the Nandyál, Koilkuntla and the Sirvel taluks, and has a total area of 423,810 acres, of which 60,017 or 14 per cent. is not available for cultivation, 26,576 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 363,793 acres, of which 359,831 acres are dry and 3,962 wet land. This area is divided as 60 per cent. Government, and 40 per cent. minor inam land. Of the Government land, 12,179 acres dry and 137 acres wet, at an average assessment of Rs. 1-5-1 per acre dry and Rs. 6-0-6 per acre wet, remain available for occupation, the average assessment of the occupied land being Rs. 1-9-0 per acre of dry and Rs. 6-4-10 per acre of wet land. Of the area under occupation, both Government and inam, 96 per cent. dry and 1 per cent. wet is under cultivation; the average assessment per acre on the Government land being Rs. 1-8-10 for dry and Rs. 6-15-9 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 4,413 acres or 94 per cent. of the total irrigable area, and of this, 4,266 acres or 97 per cent. for first crop and 2,442 acres or 55 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 27,647 or Rs. 6 per acre; but of the total demand 6 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 206,537 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				ACRES.		RS. A.		
Under Rs. 10 ..	36	18	12	3	11	4 11		
From ,, 10 to 30 ..	14	11	25	15	25	24 3		
Do. ,, 30 to 50 ..	6	4	17	24	16	37 8		
Do. ,, 50 to 100 ..	4	3	19	41	20	67 6	14 266	5,354
Do. ,, 100 to 250 ..	2	2	20	87	21	145 6		
Do. ,, 250 to 500 ..	..	..	6	204	6	339 15		
Do. ,, 500 to 1,000 ..	..	..	1	395	1	650 9		
Total and average ..	62	38	100	15	100	23 15		

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The number of sub-tenants returned is not at all accurate, as observed regardiug other tracts. According to these figures the average holding of a ryot is at present 14 acres, the average area of each patta being 15 acres.

In this tract the population was 111,620 at the time of the last census or 307 per 1,000 acres available for cultivation. Of every 1,000 head of population, 500 were males and 937 illiterate. The water-supply for drinking purposes is generally obtained from rivers and wells; the supply is good in the former, but often poor and bad in the latter.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 34 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is large and nearly four times that of the cows found; sheep are nearly double the goats in number. The total amount of stock kept, calculated as cattle, is 21 per 100 acres occupied and 22 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 6 per cent. As regards dead stock, one ordinary plough is kept for every 37 acres under cultivation and one drill for every 31 acres. The proportion of three-rowed drills is about as 1 to 1 six-rowed drill. The number of sugar-mills in the tract is 5, of oil-mills 90, and indigo-vats 458; whilst one cart is kept for every 51 acres cultivated.

In this tract the principal crops raised are cereals 179,184 acres and pulses 6,391 acres, but the latter are probably returned considerably below the reality. The chief cereal raised is late jonna on 41 per cent.; and of the pulses, horse-gram and Bengal gram together occupy about 2 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton 29 per cent. and indigo about 15 per cent. of the total area. Information as to the time of putting in the crops is only available for 335,408 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	9	8	44	32	6	1	100

The cropping of the tract is, therefore, dependent for sowing on the later rains, and is usually complete by the middle of October.

Well-irrigation is not largely practised in this tract, there being 622 wells and 11 doruvús, (of which 186 are abandoned or occasionally used) in 110 out of the total 137 villages, irrigating about 1,927 acres. These wells are worked chiefly during the months from November to June, and the water-supply in them seldom fails. The soil of the tract is unsuitable for irrigation, and the prospect of extending this form of irrigation is bad and well-sinking costly.

12. *The Owk* tract lies along the foot of the southern portion of the Erramalas, and is much broken up by isolated flat-topped hills and spurs belonging to that hill system. The most widely prevailing soil is *régada*, but where that exists, it is mixed, to a great extent, with stones, and in many places gives way to gravelly soils of rather poor quality. The hills and intermediate plains are, for the most part, bare of anything but the feeblest vegetation. The general aspect of the country is arid. Two good tanks exist in the tract with good supplies of water. One fair road, which, however, needs renewal where it crosses the out-crop of the 'Kaddapah' rocks, opens up the tract to the Tadpatri railway station.

The tract contains 18 villages, lying in the Koilkuntla taluk, and has a total area of 71,661 acres, of which 22,076 or 30 per cent. is not available for cultivation; 13,914 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 49,585 acres, of which 46,883 acres are dry and 2,702 wet land. This area is divided as 55 per cent. Government, 2 per cent. lying in shrotriem villages, and 43 per cent. minor inam land. Of the Government land, 5,083 acres dry and 288 acres wet, at an average assessment of As. 10-4 per acre dry and Rs. 7-9-10 per acre wet, remain available for occupation, the average assessment of the occupied land being Re. 1-0-2 per acre of dry and Rs. 7-15-4 per acre of wet land. Of the area under occupation, both Government and inam, 87 per cent. dry and 5 per cent. wet, is under cultivation; the average assessment per acre on the Government land being Re. 1-0-8 for dry and Rs. 8-6-6 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 2,473 acres or 89 per cent. of the total irrigable area, and of this 2,149 acres or 87 per cent. for first crop, and 1,109 or 45 per cent. for second crop, has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 17,158 or Rs. 8 per acre; but of the total demand 16 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 21,272 acres, of which the following is an abstract:—

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Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	41	22	34	4	24	4 2	2,746	917
From ,, 10 to 30 ..	18	12	38	9	42	14 13		
Do. ,, 30 to 50 ..	3	2	14	22	16	36 15		
Do. ,, 50 to 100 ..	1	1	10	34	13	61 7		
Do. ,, 100 to 250 ..	..	..	3	65	3	123 10		
Do ,, 250 to 500 ..	..	..	1	132	2	303 0		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	63	37	100	7	100	10 9		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants, but rather ryots not residing in the village where they hold pattas. According to these figures, the average holding of a ryot is at present 8 acres, the average area of each patta being 7 acres.

In this tract, the population was 15,529 at the time of the last census or 313 per 1,000 acres available for cultivation. Of every 1,000 head of population, 502 were males and 950 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is generally good.

The tilling cattle usually kept are of the Nellore or Erramala breed, and a pair is able to keep 21 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is considerable and almost double that of the cows; sheep and goats are found in nearly equal numbers. The total amount of stock kept, calculated as cattle, is 36 per 100 acres occupied and 39 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 12 per cent. As regards dead stock, one ordinary plough is kept for every 24 acres under cultivation and one drill for every 23 acres. The proportion of three-rowed drills is about as 1 to 1 six-rowed drill. The number of oil-mills in the tract is 8 and indigo-vats 27; whilst one cart is kept for every 42 acres cultivated.

In this tract the principal crops raised are cereals 28,565 acres and pulses 1,823 acres, but the latter are probably returned at least 5,000 acres below the reality. The chief cereals raised are korra on 26, arika on 18, and late jonna on nearly 13 per cent.; and of the pulses, Bengal-gram and horse-gram together occupy 4 per cent., and those sown in mixtures are said to take up about 1 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton 17 per cent. and indigo and castor about 3 per cent. each of the total area. Information as to the time of putting in the crops is only available for 38,954 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	19	30	40	5	3	1	2	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the earlier rains and is usually completed by the end of September.

Well-irrigation is tolerably extensively practised in this tract, there being 231 wells and 19 doruvús (of which 3 are abandoned or occasionally used) in 16 out of the total 18 villages, irrigating about 1,169 acres. These wells are worked chiefly during the months from September to June, and the water-supply in them seldom fails. The soil of the tract is in many villages suitable for irrigation, and the prospect of extending this form of irrigation is fair in places.

13. *The Chaygalmarri tract* lies along the western foot of the Nallamalas at the extreme southern end of the district which borders on the Cuddapah frontier. In many respects it resembles the Nallamala tract, but the prevailing soil is more generally *régada* with less *tuvva*, and the tract is characterised by a fairly well-developed system of well-irrigation. It is fairly well wooded, and is served by the Cuddapah-Nandyál road, as well as a subsidiary famine road in bad order, and partially by the Kurnool-Cuddapah canal where it touches it in some places.

The tract contains 32 villages lying in the Sirvel taluk, and has a total area of 111,923 acres, of which 30,661 or 27 per cent. is not available for cultivation; 24,651 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 81,262 acres, of which 80,070 acres are dry and 1,192 wet land. This area is divided as 63 per cent. Government and 37 per cent. minor inam land. Of the Government land, 11,317 acres dry and 105 acres wet, at an average assessment of Rs. 1-2-0 per acre dry and Rs. 5-6-8 per acre

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wet, remain available for occupation, the average assessment of the occupied land being Rs. 1-4-8 per acre of dry and Rs. 6-0-7 per acre of wet land. Of the area under occupation, both Government and inam, 91 per cent. dry and 1 per cent. wet is under cultivation; the average assessment per acre on the Government land being Rs. 1-4-7 for dry and Rs. 5-10-2 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 1,146 acres or 83 per cent. of the total irrigable area, and of this 1,144 acres or 100 per cent. for first crop and 264 or 23 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 4,531 or Rs. 4 per acre; but of the total demand 0·2 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 41,253 acres, of which the following is an abstract :—

Pattas.	Number.		Area held in each class.		Assessment of land in each class.		Number of	
	Proportion in each class of							
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	48	18	27	4	21	4 0	4,024	1,437
From ,, 10 to 30 ..	17	9	33	12	34	16 4		
Do. ,, 30 to 50 ..	3	2	14	27	16	37 6		
Do. ,, 50 to 100 ..	2	1	13	46	13	62 4		
Do. ,, 100 to 250 ..	..	..	12	153	14	227 9		
Do. ,, 250 to 500 ..	..	..	1	137	2	293 0		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	70	30	100	10	100	12 4		

The number of sub-tenants returned is not at all accurate, for reasons already noted. According to these figures the average holding of a ryot is at present 10 acres, the average area of each patta being 10 acres.

In this tract the population was 24,412 at the time of the last census or 300 per 1,000 acres available for cultivation. Of every 1,000 head of population, 501 were males and 948 illiterate. The water-supply for drinking purposes is generally obtained from rivers and wells, in which the supply is generally good.

The tilling cattle usually kept are of the Nellore breed, and a pair is able to keep 23 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is large and nearly double that of the cows; sheep exceed goats in number considerably. The total amount of stock kept, calculated as cattle, is 29 per 100 acres occupied and 32 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 9 per cent. As regards dead stock, one ordinary plough is kept for every 26 acres under cultivation and one drill for every 29 acres. The proportion of three-rowed drills is about as ·5 to 1 six-rowed drill. The number of oil-mills in the tract is 3 and indigo-vats 83; whilst one cart is kept for every 44 acres cultivated.

In this tract the principal crops raised are cereals 38,526 acres and pulses 4,690 acres, but the latter are probably returned at least 4,000 acres below the reality. The chief cereals raised are arika about 25 per cent., late jonna on 22·5, and korra on 14 per cent.; and of the pulses, horse-gram on 7 per cent. and those sown in mixtures are said to take up 1 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position :—Cotton 16 per cent. and indigo 8 per cent. of the total area. Information as to the time of putting in the crops is only available for 58,170 acres, but this shows that the area is sown as follows : —

Month.	July.	August.	September.	October.	November.	December.	Total.
Per cent.	27	15	33	18	5	2	100

The cropping of the tract is, therefore, neither dependent for sowing on the early or the later rains, and is seldom complete before November.

Well-irrigation is pretty largely practised in this tract, there being 410 wells, (of which 43 are abandoned or occasionally used) in 31 out of the total 32 villages, irrigating about 1,776 acres. These wells are worked chiefly during the months from September to June, and the water-supply in them seldom fails. The soil of the tract is generally suitable for irrigation, and the prospect of extending this form of irrigation is fair in places.

14. *The Sagilér* tract lies in the eastern section of the district, and is drained to the southward by a river of that name, and consists of two valleys with an intermediate

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ridge of hills round which the river runs. The bottom of these valleys is filled up by soils of a loamy character, the higher portions being usually gravelly and poor, except where, as near Giddalur and Narava, a small spread of *régada* of rather light character covers a portion of the tract. The country is, for the most part, open to the foot of the surrounding hills, which are sparsely covered on their outside faces with jungle. The accessibility of these jungles encourages the keeping of stock, whilst a fair amount of wet cultivation under tanks and a few small dams across the streams leads to a fair number of buffaloes being used for cultivation. Across the northern end of the tract runs the Nandyál-Cumbum road, and a part of the Bellary-Kistna railway, but the greater part of the tract is badly off, one valley having practically no roads, and the other only the remains of a road north from the Cuddapah frontier which has been given up in recent years.

The tract contains 41 villages, lying in the Cumbum taluk, and has a total area of 111,423 acres, of which 34,780 or 31 per cent. is not available for cultivation; 20,459 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 76,643 acres, of which 73,084 acres are dry and 3,559 wet land. This area is divided as 58 per cent. Government, 10 per cent. lying in shrotriem villages, and 32 per cent. minor inam land. Of the Government land, 15,265 acres dry and 428 acres wet, at an average assessment of As. 10-6 per acre dry and Rs. 4-6-11 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 14-10 per acre of dry and Rs. 5-9-5 per acre of wet land. Of the area under occupation, both Government and inam, 83 per cent. dry and 5 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 15-3 for dry and Rs. 5-10-11 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 2,995 acres or 87 per cent. of the total irrigable area, and of this, 2,989 acres or 100 per cent. for first crop and 1,206 or 40 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 11,834 or Rs. 4 per acre; but of the total demand, 3 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 25,402 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	52	30	57	4	49	3 10		
From ,, 10 to 30 ..	10	6	34	11	40	15 1		
,, ,, 30 to 50 ..	1	1	7	27	9	38 13		
,, ,, 50 to 100 ..	..	..	2	48	2	60 1	5,733	1,780
,, ,, 100 to 250 ..	..	..	..	..	..	..		
,, ,, 250 to 500 ..	..	..	..	..	..	..		
,, ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	63	37	100	5	100	6 1		

The number of sub-tenants returned is as inaccurate as usual. According to these figures, the average holding of a ryot is at present 4 acres, the average area of each patta being 5 acres.

In this tract the population was 34,304 at the time of the last census or 448 per 1,000 acres available for cultivation. Of every 1,000 head of population, 498 were males and 961 illiterate. The water-supply for drinking purposes is generally obtained from the Sagiler, streams and wells in which the supply is good.

The tilling cattle usually kept are locally bred, and a pair is able to keep 17 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, and the number kept is large, and is nearly half as many again as that of the cows; sheep exceed goats in number by nearly half. The total amount of stock kept, calculated as cattle, is 53 per 100 acres occupied and 62 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 16 per cent. As regards dead stock, one ordinary plough is kept for every 12 acres under cultivation and one drill for every 18 acres. The proportion of three-rowed drills is about as 13 to 1 six-rowed drill. The number of indigo-vats in the tract is 51; whilst one cart is kept for every 41 acres cultivated.

In this tract the principal crops raised are cereals 40,545 acres and pulses 6,727 acres, but the latter are probably returned at least 4,000 acres below the reality. The chief cereals raised are early jonna on 27, korra on 18, sazza on 9 per cent.; and of the pulses, horse-gram on 10·5 per cent., Bengal-gram on 1 per cent., and other pulses on 2 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton 4 per cent. and

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indigo 2½ per cent. of the total area. Information as to the time of putting in the crops is only available for 46,377 acres, but this shows that the area is sown as follows :—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	34	30	9	8	8	6	5	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the early rains, but a considerable area of late crop is put in.

Well-irrigation is tolerably largely practised in this tract, there being 1,052 wells and 62 doruvús (of which 690 are abandoned or occasionally used) in 39 out of the total 41 villages, irrigating about 577 acres. These wells are worked chiefly during the months from December to March, and the water-supply in them seldom fails. The soil of the tract is suitable for irrigation, and the prospect of extending this form of irrigation is fair, although so many existing wells are out of use.

15. *The Gundlakamma* tract consists of the valley drained by the river of that name and of its tributaries above the Cumbum tank. These valleys wind in and out amongst the Nallamalas, and, excepting the first, are narrow, but their bottoms are filled with fair soil. The main valley opens out in its upper parts into fair-sized plains of mixed soils, small patches of clay alternating with a good deal of loam and gravel. The tract is fairly well wooded, and, lying near the jungles on the hills, is well off for grazing grounds. The Bellary-Kistna railway touches one corner of it, but the remains only of a famine road running up the main valley serve the greater part of it.

The tract contains 36 villages, lying in the Cumbum taluk, and has a total area of 125,762 acres, of which 30,800 or 25 per cent. is not available for cultivation; 12,403 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 94,962 acres, of which 90,997 acres are dry and 3,965 wet land. This area is divided as 58 per cent. Government, 13 per cent. lying in shrotriem villages, and 29 per cent. minor inam land. Of the Government land, 17,072 acres dry and 487 acres wet, at an average assessment of As. 9-11 per acre dry and Rs. 4-11-6 per acre wet, remain available for occupation; the average assessment of the occupied land being As. 13-5 per acre of dry and Rs. 5-9-4 per acre of wet land. Of the area under occupation, both Government and inam, 85 per cent. dry and 5 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 14-2 for dry and Rs. 5-13-8 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 3,180 acres or 90 per cent. of the total irrigable area, and of this, 3,168 acres or 100 per cent. for first crop and 602 or 19 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 13,523 or Rs. 4 per acre; but of the total demand, 1 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 35,191 acres, of which the following is an abstract :—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	50	28	48	4	38	3 12	5,729	1,779
From ,, 10 to 30 ..	12	7	34	12	40	16 9		
Do. ,, 30 to 50 ..	1	1	11	28	13	36 11		
Do. ,, 50 to 100 ..	..	1	5	39	8	68 15		
Do. ,, 100 to 250 ..	..	..	2	145	1	115 9		
Do. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	63	37	100	7	100	7 11		

The number of sub-tenants returned is not accurately given as usual. According to these figures the average holding of a ryot is at present 6 acres; the average area of each patta being 7 acres.

In this tract the population was 39,473 at the time of the last census or 416 per 1,000 acres available for cultivation. Of every 1,000 head of population, 501 were males and 968 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is usually good.

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The tilling cattle usually kept are bred locally, and a pair is able to keep 17 acres under cultivation. The breeding stock is chiefly composed of nearly equal numbers of cows and she-buffaloes, and the number kept is considerable; sheep only slightly exceed goats in number and both are numerous. The total amount of stock kept, calculated as cattle, is 53 per 100 acres occupied and 65 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 17 per cent. As regards dead stock, one ordinary plough is kept for every 17 acres under cultivation and one drill for every 20 acres. The proportion of three-rowed drills is about as 66 to 1 six-rowed drill. The number of indigo-vats in the tract is 78; whilst one cart is kept for every 41 acres cultivated.

In this tract the principal crops raised are cereals 49,995 acres and pulses 5,951 acres, but the latter are probably returned at least 6,000 acres below the reality. The chief cereals raised are early jonna on 29, korra on 21, sazza on 12, and arika on 10 per cent.; and of the pulses, horse-gram on 9·5 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Castor 3½ per cent., cotton 3 per cent., and indigo about 2 per cent. of the total area; chillies occupying 1 per cent. also. Information as to the time of putting in the crops is only available for 54,299 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June	Total.
Per cent.	42	29	10	7	4	4	4	100

The cropping of the tract is, therefore, mostly dependent for sowing on the early rains, though the late crops occupy a considerable area.

Well-irrigation is largely practised in this tract, there being 943 wells and 163 doravús (of which 405 are abandoned or occasionally used) in 28 out of the total 36 villages, irrigating about 2,246 acres. These wells are worked chiefly during the months from December to March, and the water-supply in them rarely fails. The soil of the tract is suitable for irrigation, and the prospect of extending this form of irrigation is fair, though here also the number of wells at present out of use is large.

16. *The Basinepalle* tract occupies a valley running up amongst the Veligondas, in which the prevailing soil is of the poorest. It opens out at the north towards the Gundlakamma, where it is crossed by the high road to Nellore, but it is otherwise in no way served, except on its western edge, by any road. In general characters, it resembles the adjoining tracts, except Cumbum.

The tract contains 20 villages, lying in the Cumbum taluk, and has a total area of 83,761 acres, of which 44,283 or 53 per cent. is not available for cultivation; 37,283 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 39,478 acres, of which 38,862 acres are dry and 616 wet land. This area is divided as 45 per cent. Government, 36 per cent. lying in shrotriem villages, and 19 per cent. minor inam land. Of the Government land, 5,001 acres dry and 53 acres wet, at an average assessment of As. 7-4 per acre dry and Rs. 4-1-6 per acre wet, remain available for occupation; the average assessment of the occupied land being As. 7-6 per acre of dry and Rs. 4-3-4 per acre of wet land. Of the area under occupation, both Government and inam, 90 per cent. dry and 2 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 7-6 for dry and Rs. 4-3-5 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 564 acres or 90 per cent. of the total irrigable area, and of this, 562 acres or 100 per cent. for first crop and 209 or 37 per cent for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 1,883 or Rs. 3 per acre; but of the total demand 3 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 12,735 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	60	30	70	6	61	3 0	2,041	401
From ,, 10 to 30 ..	7	3	27	24	34	16 5		
Do. ,, 30 to 50 ..	..	..	2	41	3	34 8		
Do. ,, 50 to 100 ..	..	..	1	63	2	58 8		
Do. ,, 100 to 250 ..	..	..	..	..	..	..		
Do. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	67	33	100	8	100	4 8		

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According to these figures the average holding of a ryot is at present 6 acres, the average area of each patta being 8 acres.

In this tract the population was 16,096 at the time of the last census or 408 per 1,000 acres available for cultivation. Of every 1,000 head of population, 512 were males and 975 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is fairly good.

The tilling cattle usually kept are bred locally, and a pair is able to keep 16 acres under cultivation. The breeding stock is chiefly composed of cows and she-buffaloes in nearly equal numbers as sheep and goats; sheep scarcely exceed goats in number. The total amount of stock kept, calculated as cattle, is 52 per 100 acres occupied and 69 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 19 per cent. As regards dead stock, one ordinary plough is kept for every 13 acres under cultivation and one drill for every 23 acres. The proportion of three-rowed drills is about as 221 to 1 six-rowed drill. The number of indigo-vats in the tract is 19; whilst one cart is kept for every 48 acres cultivated.

In this tract the principal crops raised are cereals 19,165 acres and pulses 2,401 acres, but the latter are probably returned at least 4,000 acres below the reality. The chief cereals raised are sazza on 21, korra on 19, arika on 15·6 and ragi on 14 per cent.; and of the pulses, horse-gram on 10 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Cotton and indigo each 3 per cent. and castor 2 per cent. of the total area. Information as to the time of putting in the crops is only available for 17,804 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent. ..	18	55	13	7	4	2	1	100

The cropping of the tract is, therefore, dependent for sowing on the early rains, and there is but little late crop.

Well-irrigation is largely practised in this tract, there being 436 wells and 31 doruvis (of which 200 are abandoned or occasionally used) in 17 out of the total 20 villages, irrigating about 1,056 acres. These wells are worked chiefly during the months from December to March, and the water-supply in them seldom fails. The soil of the tract is generally suitable for irrigation, and the prospect of extending this form of irrigation is fair, but the existing means are not at present fully utilised.

17. *The Cumbum* tract includes nearly all those villages in which irrigation is dependent on the tank of that name, the area excluded being small. The tank has been formed by damming up the narrow gorge by which the Gundlakamma forced its way through the outlying ridge of hills, which runs through nearly the whole of the western section of the district parallel to the general line of the Nallamalas. The land in this tract lies on both banks of the Gundlakamma and is rich and fertile, and, except in its lower parts, well supplied with water. Cumbum is a place of trade, through which several roads and the Bellary-Kistna railway pass.

The tract contains 13 villages lying in the Cumbum taluk, and has a total area of 13,748 acres, of which 4,338 or 31 per cent. is not available for cultivation, 832 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 9,410 acres, of which 4,758 acres are dry and 4,652 wet land. This area is divided as 70 per cent. Government and 30 per cent. minor inam land. Of the Government land, 725 acres dry and 189 acres wet, at an average assessment of As. 8-11 per acre dry and Rs. 8-12-6 per acre wet, remain available for occupation, the average assessment of the occupied land being As. 10-1 per acre of dry and Rs. 10-15-1 per acre of wet land. Of the area under occupation, both Government and inam, 39 per cent. dry and 51 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 10-9 for dry and Rs. 11-0-6 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 4,670 acres or 97 per cent. of the total irrigable area, and of this 4,670 acres or 100 per cent. for first crop and 3,500 or 75 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 39,177 or Rs. 8 per acre; but of the total demand 1 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 5,597 acres, of which the following is an abstract:—

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Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10	34	16	36	2	17	4 10		
From ,, 10 to 30 ..	29	14	44	2	56	17 4		
Do. ,, 30 to 50 ..	4	2	13	4	17	36 10		
Do. ,, 50 to 100 ..	1	..	6	9	8	65 3	1,883	1,744
Do. ,, 100 to 250 ..	..	..	1	9	2	107 10		
Do. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	68	32	100	2	100	13 2		

According to these figures the average holding of a ryot is at present 3 acres, the average area of each patta being 2 acres.

In this tract the population was 16,624 at the time of the last census, or 1,767 per 1,000 acres available for cultivation. Of every 1,000 head of population, 497 were males and 932 illiterate. The water-supply for drinking purposes is generally obtained from the Cumbum tank in which the supply is practically permanent.

The tilling cattle usually kept are nearly equal numbers of bullocks and he-buffaloes, and a pair is able to keep only 6 acres under cultivation. The breeding stock scarcely exist. The total amount of stock kept, calculated as cattle, is 65 per 100 acres occupied and 73 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 12 per cent. As regards dead stock, one ordinary plough is kept for every 4 acres under cultivation and one drill for every 11 acres. The latter all being three-rowed drills. The number of sugar-mills in the tract is 60, of oil-mills 2, and indigo-vats 15; whilst one cart is kept for every 14 acres cultivated.

In this tract the principal crops raised are cereals 6,079 acres and pulses 332 acres, but the latter are probably returned below the reality. The chief cereals raised are irrigated paddy on 37, korra on 13, and sazza on 8 per cent.; and of the pulses, horse-gram on nearly 4 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:— Indigo 10 per cent., other industrial crops 5 per cent., cotton and castor each 1 per cent. of the total area. Information as to the time of putting in the crops is only available for 8,077 acres, but this shows that the area is sown as follows:—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	28	36	14	7	4	6	5	100

The cropping of the tract is mainly dependent for sowing on irrigation from the Cumbum tank.

Well-irrigation is of no consequence in this tract, there being 70 wells and 16 doruvús, (of which 64 are abandoned or occasionally used) in 10 out of the total 13 villages, irrigating only about 22 acres. These wells are worked chiefly during the months of August and September.

18. *The Vémulakota* tract lies to the north of Cumbum, and is an open plain lying at the foot of the Nallamalas covered by a stretch of *régada* of rather poor quality. It is drained by the Gundlakamma, on the banks of which there is a certain extent of alluvial soil brought under irrigation by water lifted from the river. The country is open and bare of trees, and is badly served by roads, though there are the remains of one running north on its western border, and the Bellary-Kistna railway crosses its southern end.

The tract contains 21 villages lying in the Cumbum and the Márkápur taluks, and has a total area of 50,872 acres, of which 9,170 or 18 per cent. is not available for cultivation; 4,218 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 41,702 acres, of which 39,778 acres are dry and 1,924 wet land. This area is divided as 68 per cent. Government, 12 per cent. lying in shrotriem villages, and 20 per cent. minor inam land. Of the Government land 8,745 acres dry and 243 acres wet at an average assessment of As. 10-9 per acre dry and Rs. 6-14-3 per acre wet remain available for occupation, the average assessment of the occupied land being As. 11-10 per acre of dry and Rs. 6-7-6 per acre of wet land. Of the area under occupation both Government and inam, 86 per cent. dry and

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5 per cent. wet is under cultivation. The average assessment per acre on the Government land being As. 11-11 for dry and Rs. 6-8-8 for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 1,796 acres or 85 per cent. of the total irrigable area, and of this 1,769 acres or 98 per cent. for first crop and 296 or 16 per cent. for second crop have been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 8,911 or Rs. 5 per acre; but of the total demand 1 per cent. has usually been remitted.

Particulars as to the sub division of the holdings of the Government area are only available for 18,600 acres, of which the following is an abstract :—

Pattas.	Number.		Area held in each class.		Assessment of land in each class.		Number of	
	Proportion in each class of							
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10 ..	51	27	54	5	45	4 4		
From ,, 10 to 30 ..	14	6	37	12	42	15 13		
Do. ,, 30 to 50 ..	1	1	7	28	8	36 11		
Do. ,, 50 to 100 ..	..	..	2	42	4	76 8	2,751	1,100
Do. ,, 100 to 250 ..	..	..	..	67	1	113 0		
Do. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	66	34	100	7	100	7 6		

The number of sub-tenant is not accurately returned. According to these figures the average holding of a ryot is at present 7 acres, the average area of each patta being 7 acres.

In this tract the population was 13,210 at the time of the last census, or 317 per 1,000 acres available for cultivation. Of every 1,000 head of population, 500 were males and 967 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is generally good.

The tilling cattle usually kept are bred locally, and a pair is able to keep 19 acres under cultivation. The breeding stock is chiefly composed of she-buffaloes, sheep and goats, and the number kept is considerable; sheep greatly exceed goats in number. The total amount of stock kept, calculated as cattle, is 42 per 100 acres occupied and 48 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 15 per cent. As regards dead stock, one ordinary plough is kept for every 15 acres under cultivation and one drill for every 23 acres, the latter all being three-rowed drills. The number of indigo-vats in the tract is 27, whilst one cart is kept for every 41 acres cultivated.

In this tract the principal crops raised are cereals 19,526 acres and pulses 2,391 acres, but the latter are probably returned at least 1,000 acres below the reality. The chief cereals raised are arika on 20, sazza on 19, korra on 16·4 and variga on 14 per cent.; and of the pulses, horse-gram on 8 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position :—Cotton on 6, castor on 4·4 and indigo on nearly 2 per cent. of the total. Information as to the time of putting in the crops is only available for 24,663 acres, but this shows that the area is sown as follows :—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent. ..	18	39	14	5	14	6	4	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the early rains, but part of the variga and sazza are grown as late crops.

Well-irrigation is pretty largely practised in this tract, there being 83 wells and 56 doruvús, (of which 18 are abandoned or occasionally used) in 18 out of the total 21 villages, irrigating about 638 acres. These wells are worked chiefly during the months of July and August and from December to March, and the water-supply in them seldom fails. The soil of the tract is not very suitable for irrigation, and the prospect of extending this form of irrigation is poor.

19. *The Dupad* tract consists of a plain lying between the outlying parallel ridge of the Nallamala and the Gundlakamma or its tributary the Kondlér, and a number of more or less wide valleys running up into those mountains, the principal of which are the Tigalér and the Duvvalér. The prevailing soils are thin, light and poor, although in

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a few places patches of superior quality exist, and in the bottoms where the accumulations have been deeper better soil is found. The feature of this tract is the great possibilities it shows for the making of tanks of large size at little cost; this feature has already been utilised to a small extent, but a wide field is open for attention. The tract is very poor, almost bare of trees and surrounded generally by the bare foot-hills of the Nallamalas. The accessibility of the higher jungles encourages the keeping of stock, and the facilities which exist, the practice of well irrigation. Of good roads there are practically none, but the lines of several, if put in order, would serve the tract fully from north to south and from east to west.

The tract contains 77 villages lying in the Márkápur taluk, and has a total area of 320,081 acres, of which 84,987 or 27 per cent. is not available for cultivation, 41,350 acres being reserved for village forests and grazing reserves, and the remainder as poramboke. The arable area is 235,094 acres, of which 228,082 acres are dry and 7,012 wet land. This area is divided as 71 per cent. Government, 13 per cent. lying in shrotriem villages, and 16 per cent. minor inam land. Of the Government land 77,635 acres dry and 971 acres wet at an average assessment of As. 6-8 per acre dry and Rs. 4-11-2 per acre wet remain available for occupation, the average assessment of the occupied land being As. 8-0 per acre of dry and Rs. 5-6-6 per acre of wet land. Of the area under occupation, both Government and inam, 75 per cent. dry and 4 per cent. wet is under cultivation; the average assessment per acre on the Government land being As. 8-2 for dry and Rs. 5-11-7 on the Government and Rs. 6-5-4 on the inam for wet land.

According to the irrigation accounts, the area of irrigable land occupied in this tract is 6,638 acres or 81 per cent. of the total irrigable area, and of this 5,964 acres or 90 per cent. for first crop and 160 or 2 per cent. for second crop has been, on the average, effectively irrigated during the past three years, producing a revenue of Rs. 27,575 or Rs. 5 per acre; but of the total demand 18 per cent. has usually been remitted.

Particulars as to the subdivision of the holdings of the Government area are only available for 85,395 acres, of which the following is an abstract:—

Pattas.	Number. Proportion in each class of		Area held in each class.		Assessment of land in each class.		Number of	
	Single.	Joint.	Per cent. of total.	Average per patta.	Per cent. of total.	Average per patta.	Registered ryots.	Sub-tenants.
				Acres.		Rs. A.		
Under Rs. 10 ..	51	26	53	7	42	4 0	10,443	3,349
From ,, 10 to 30 ..	13	7	34	18	37	14 8		
Do. ,, 30 to 50 ..	2	1	7	30	11	37 7		
Do. ,, 50 to 100 ..	..	..	5	58	8	68 2		
Do. ,, 100 to 250 ..	..	..	1	75	2	145 9		
Do. ,, 250 to 500 ..	..	..	..	..	..	..		
Do. ,, 500 to 1,000 ..	..	..	..	..	..	..		
Total and average ..	66	34	100	10	100	7 7		

The number of sub-tenants returned is not at all accurate, owing to defects in the system of recording them, few of them being really sub-tenants, but rather ryots not residing in the village where they hold pattas. According to these figures the average holding of a ryot is at present 8 acres, the average area of each patta being 10 acres.

In this tract the population was 74,192 at the time of the last census, or 316 per 1,000 acres available for cultivation. Of every 1,000 head of population, 503 were males and 966 illiterate. The water-supply for drinking purposes is generally obtained from streams and wells in which the supply is good.

The tilling cattle usually kept are bred locally, and a pair is able to keep 13 acres under cultivation. The breeding stock is chiefly composed of cows and sheep and goats, and the number kept is over 24,000 cows with nearly 13,000 she-buffaloes; sheep are nearly double the number of goats. The total amount of stock kept, calculated as cattle, is 68 per 100 acres occupied and 100 per 100 acres cultivated, and the estimated proportion of cultivated land, for which manure is available, is 26 per cent. As regards dead stock, one ordinary plough is kept for every 14 acres under cultivation and one drill for every 21 acres, the latter all being three-rowed drills. The number of oil-mills in the tract is 1 and indigo-vats 87; whilst one cart is kept for every 43 acres cultivated.

In this tract the principal crops raised are cereals 67,022 acres and pulses 13,477 acres, but the latter are probably returned at least 2,000 acres below the reality. The chief cereals raised are sazza on 26 per cent., korra on 15 per cent., and early jonna on 10 per cent.; and of the pulses, horse-gram on 14 per cent. of the total area. Besides these, the following industrial and other crops occupy an important position:—Castor which occupies 7 per cent. and cotton about 6 per

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cent. of the total. Information as to the time of putting in the crops is only available for 99,886 acres, but this shows that the area is sown as follows :—

Month.	July.	August.	September.	October.	November.	December.	January to June.	Total.
Per cent.	22	35	13	10	12	5	3	100

The cropping of the tract is, therefore, chiefly dependent for sowing on the early rains, but a fair proportion of the area is put in late.

Well-irrigation is very largely practised in this tract, there being 1,762 wells and 231 doruvús, (of which 55 are abandoned or occasionally used) in 76 out of the total 77 villages, irrigating about 10,530 acres. These wells are worked chiefly during the months of July and August and from December to March, and the water-supply in them rarely, if ever, fails. The soil of the tract is very suitable for irrigation, and the prospect of extending this form of irrigation is fair.

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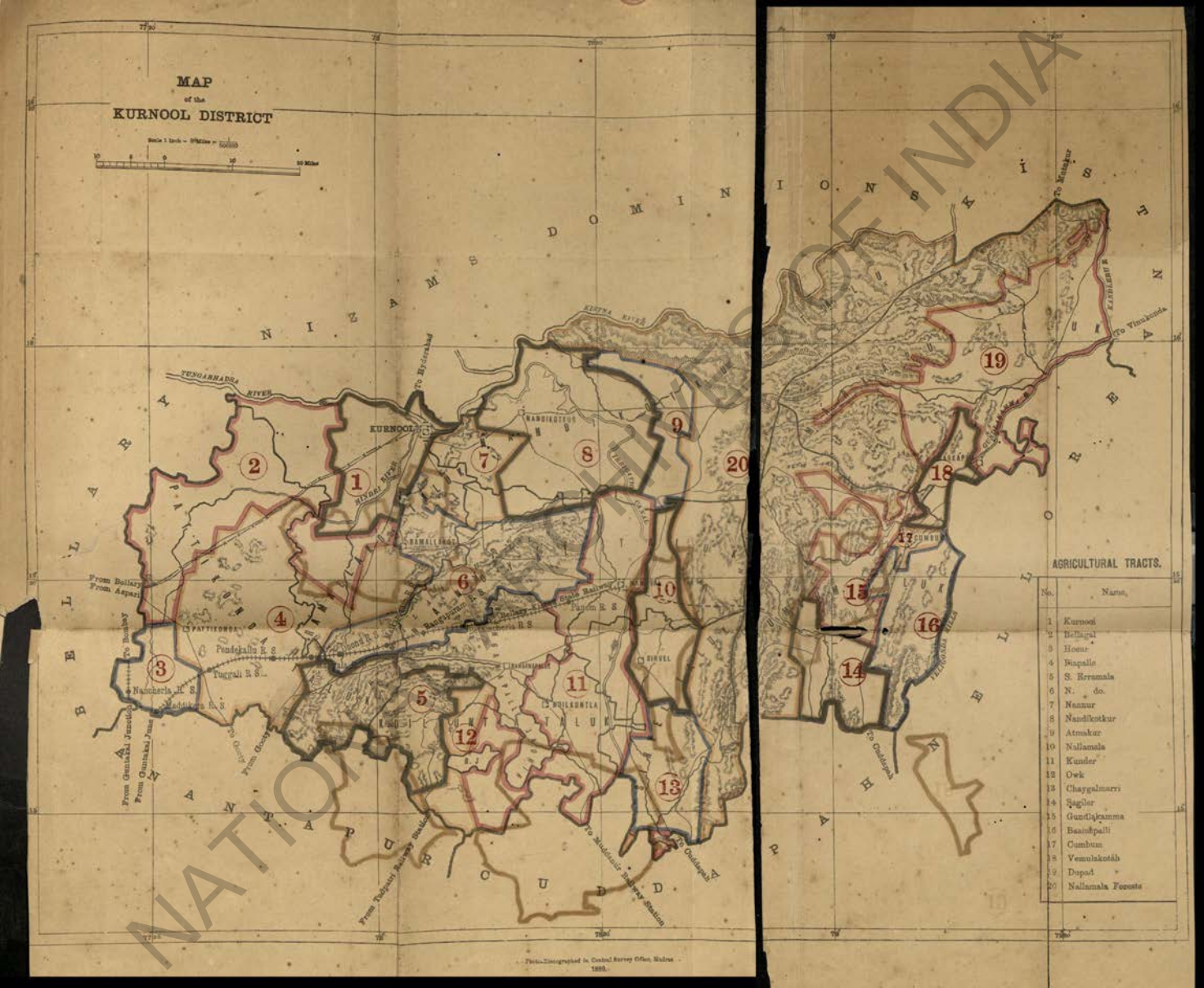
MAP
of the
KURNOOL DISTRICT



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APPENDICES.

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Appendix I.—Statement showing the diseases of the in-door and out-door patients treated at dispensaries in the Kurnool district.

Names of dispensaries.	Order A. Febrile or Zymotic Diseases.				Order B. Constitutional Diseases.								Local Diseases.					
	Small-pox.	Malarious fevers, ague and remittent.	Cholera.	Other diseases of this order.	Rheumatic affections.	Syphilitic affections.	Scrofula.	Anæmia.	Leprosy.	Phthisis.	Dropsy.	Other diseases of this order.	Ophthalmia.	Inflammation of the external ear.	Goitre.	Respiratory affections.	Heart diseases.	Dysentery.
Pattikonda	..	213	8	6	59	12	1	3	..	1	2	6	610	83	1	40	..	21
Kurnool	..	5,271	23	84	581	183	24	34	12	29	23	101	579	373	1	469	11	176
Atmakúr	..	982	..	21	169	42	4	1	2	7	11	28	269	99	..	160	..	24
Nandyál	..	3,913	..	44	409	72	2	8	2	5	17	4	715	268	4	442	2	90
Koilkuntla (Owk)	..	863	..	3	105	44	4	14	5	3	8	26	329	64	2	112	2	30
Sirvél (Chaygalmarri)	..	830	6	..	52	32	4	14	1	2	1	16	190	57	..	93	..	24
Cumbum	..	4,510	..	..	249	62	5	33	2	7	26	55	355	281	..	371	6	209
Márkápur	..	561	24	46	82	29	1	10	1	3	13	46	233	74	..	132	1	35
Total ..	..	17,143	61	204	1,706	476	45	117	25	57	101	282	3,280	1,299	8	1,819	22	609
Percentage ..	..	36·32	·13	·43	3·61	1·01	·10	·25	·05	·12	·21	·60	6·95	2·75	·02	3·85	·05	1·29

Names of dispensaries.	Local Diseases—*cont.*										Debility and old age.	Poisons and poisoned wounds.	Injuries.	Total cases treated.	Percentage of total cases treated in district.	Percentage of fever cases to total cases.
	Diarrhœa.	Worms.	Liver diseases.	Spleen diseases.	Gonorrhœa and its complications.	Abscess, boils and whitlow.	Skin diseases.	Ulcers.	Labour, premature, natural and difficult.	Other local diseases.						
Pattikonda	26	13	2	2	18	59	148	198	..	282	4	29	131	1,978	4·2	11
Kurnool	166	856	32	185	101	251	498	979	17	2,229	162	77	374	13,901	29·4	38
Atmakúr	60	207	4	20	39	58	536	366	1	682	29	84	201	4,106	8·7	24
Nandyál	278	614	11	82	61	153	467	692	1	1,076	65	9	241	9,747	20·7	40
Koilkuntla (Owk)	42	92	12	31	65	106	173	326	..	651	48	79	217	3,456	7·3	25
Sirvél (Chaygalmarri)	28	127	9	11	32	48	192	271	1	521	29	51	97	2,739	5·8	30
Cumbum	152	434	25	62	98	132	304	367	4	758	73	9	102	8,691	18·4	52
Márkápur	42	140	3	7	59	48	178	187	5	448	29	64	87	2,588	5·5	22
Total ..	794	2,483	98	400	473	855	2,496	3,386	29	6,647	439	402	1,450	47,206	100	36·3
Percentage ..	1·68	5·26	·21	·85	1·00	1·81	5·29	7·17	·06	14·08	·93	·85	3·07	100	100	36·3

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APPENDIX II.—Statement showing the average imports and exports between the Kurnool district and Hyderabad, calculated on the figures from 1881-82 to 1886-87.

Particulars.	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.
1. Animals—				
Horses, &c. .. .. .. No.	44	4,660	37	1,062
Cattle .. .. ,,	893	23,570	1,300	31,615
Sheep and goats .. .. .. ,,	4,120	8,029	97	195
Others .. .. ,,	98	345	138	6,222
Total ..	5,155	36,604	1,572	39,094
2. Hides and skins—				
Hides and skins .. .. .. I.Mds.	485	9,239	2	29
Horns .. .. ,,	41	613	1	7
Leather, unmanufactured .. .. Value.	..	96	..	8
Do. manufactured .. .. ,,	..	59	..	22
3. Food-grains—				
Rice, husked .. .. .. I.Mds.	11,645	40,424	824	2,999
Other cereals .. .. .. ,,	19,967	28,305	2,235	2,997
Pulses .. .. ,,	4,639	9,006	754	1,425
Total, Food-grains ..	36,251	77,735	3,813	7,421
4. Provisions—				
Provisions .. .. I.Mds.	437	3,908	1,060	4,353
Fruits	..	260	..	4,865
5. Liquors .. .. Value.	..	4,677	..	..
6. Salt .. .. I.Mds.	139	143	19,181	34,930
7. Spices .. .. ,,	206	1,187	1,343	7,818
8. Sugars .. .. ,,	7	35	6,217	31,994
9. Tobacco .. .. ,,	280	465	1,955	12,974
10. Oil-seeds—				
Linseed .. .. I.Mds.	6,123	15,109	..	1
Gingelly .. .. ,,	1,527	4,367	2	7
Others .. .. ,,	14,413	26,251	1	6
Total, Oil-seeds ..	22,063	45,727	3	14
11. Oils .. .. I.Mds.	11,470	96,862	83	587
12. Dyeing materials .. .. .. ,,	2,398	7,868	306	4,761
13. Cotton—				
Raw .. .. I.Mds.	1,128	17,871	6	73
Manufactured .. .. .. ,,	93	3,065	1,612	72,906
14. Woollen manufactures .. .. .. ,,	409	8,927	8	160
15. Minerals—				
Iron .. .. I.Mds.	7	37	2,615	14,785
Brass and copper .. .. .. ,,	17	766	173	7,713
Other minerals .. .. .. ,,	328	2,485	157	1,243
16. All other articles—				
Raw	..	25,140	..	26,280
Manufactured	..	6,660	..	8,974
17. Treasure—				
Treasure .. .. Value.	..	8,579	..	440
Jewellery, &c. .. .. .. ,,	..	98	..	2,564
Grand Total ..	..	3,59,106	..	2,84,015

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APPENDIX III.—Statement showing the roads maintained in the Kurnool district.

Number.	Name of road.	Taluk.	Mileage			Annual allowance for upkeep.
			Made.	Under construction.	Total.	
						Rs.
I.	Kurnool to Gooty	Rámallakót ..	38	..	38	6,625
		Pattikonda ..	15	..	15	
II.	Kurnool to Bellary	Rámallakót ..	20	..	20	1,500
		Pattikonda ..	32	..	32	2,400
III.	Kurnool to Bairluty *viâ* Nandikótkur ..	Nandikótkur ..	50	..	50	5,000
IV.	Kurnool to Cuddapah *viâ* Nandyál ..	Rámallakót ..	15	..	15	2,250
		Nandyál ..	34	..	34	5,100
		Sirvél ..	36	..	36	5,400
V.	Nandyál to Cumbum *viâ* Nandikanama Pass and on to district frontier.	Nandyál ..	20	..	20	4,550
		Cumbum ..	42¼	..	42¼	3,760
VI.	Rampur Pass road from Gooty road near Piápalle to Gazulapalli *viâ* Rampur Pass.	Pattikonda ..	18	..	18	540
		Sirvél ..	19	..	19	570
		Banganapalle ..	23	..	23	*
VII.	Piápalle to Aspari *via* Jonnagiri and Pattikonda.	Pattikonda ..	33	..	33	1,650
VIII.	Atmakúr to Nandyál and on to Koilkuntla ..	Nandikótkur ..	7	8	15	450
		Nandyál ..	8	7	15	1,050
		Koilkuntla ..	9	13	22	1,200
IX.	Owk to Tadpatri frontier	Koilkuntla ..	17	..	17	2,200
X.	From Dupad over Mantralakanama Ghât to meet No. III.	Márkápur ..	..	45	45	4,500
XI.	Branch from No. V to Cumbum town ..	Cumbum ..	5	..	5	500
XII.	Kurnool to Nidujur	Rámallakót ..	5	..	5	350
XIII.	Kurnool to Tungabhadra river towards Secunderabad.	Rámallakót ..	1	..	1	75
XIV.	Branch from No. III to Jorapuram ..	Rámallakót ..	¾	..	¾	100
XV.	Rámallakót to No. IV near Kalwa ..	Rámallakót ..	8	6	14	550
		Nandyál ..	..	2	2	..
XVI.	Branch from No. IV road at Mulasagaram to Nandyál.	Nandyál ..	2	..	2	400
XVII.	From Nandyál over tank bund to Irrigation Canal Station.	Nandyál ..	2	..	2	300

* No information as to maintenance.

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APPENDIX III—*cont.*—Statement showng famine and other roads in Kurnool which are not maintained.

No.	Name of road or the name of places it is intended to connect.	Taluk.	Approximate mileage.		
			Partially made.	Untouched.	Total.
1	From No. I at Yenugamarri to No. II at Devarabunda, hamlet of Kappatralla	Pattikonda ..	24	..	24
2	From No. VII at Pattikonda to No. II Devanakonda	Do. ..	11	..	11
3	From Tuggali on No. VII to Nancherla Railway Station *vid* Maddikera	Do. ..	12	½	12½
4	From Kodumur on No. II to Venkatagiri ..	Do. ..	5	..	5
5	From Kodumur towards Yenugamarri in Adóni taluk	Do. ..	1	19	20
6	From Kodumur to Veldurti on No. I *vid* Laddagiri	Rámallakót ..	10	5	15
7	From Penchikalapád on No. II to Polukallu ..	Do. ..	10	..	10
8	From Kurubanagalapuram on No II to Tekur.	Do. ..	2	8	10
9	From Tekur on No. I to Nannur on No. IV ..	Do. ..	8	..	8
10	From Kurnool to Sunkesala	Do. ..	5	12	17
11	From Rámallakót on No. XV to Uyyalavada ..	Do. ..	5	10	15
12	From Nandikótkur on No. III to Sangameswaram *vid* Pagidala	Nandikótkur ..	8	7	15
13	From Nandikótkur to Allúr	Do. ..	3½	..	3½
14	From the Malyala bridge to road No. 12 ..	Do. ..	2	..	2
15	From Pudur bridge to Bapanakotkur on No. III.	Do. ..	5	..	5
16	From Bapanakotkur to Nandyál	Nandikótkur .. / Nandyál	10 / 10	6 / 5	16 / 15
17	From Nandikótkur to join No. 16 at Midutur ..	Nandikótkur ..	7	..	7
18	From Jutur to Atmakúr	Do. ..	10	..	10
19	From Atmakúr to Sangameswaram through Kurukonda and Mosalimadugu	Do. ..	5	15	20
20	From the aqueduct at Tarigoppula to Parumanchala	Do. ..	3⅛	..	3⅛
21	From Tarigoppula towards Bannur	Do. ..	1	..	1
22	From Ayyavarikodur to Ernipad	Nandyál	3	..	3
23	Branch from No. IV to Kalwa	Do.	2	..	2
24	From Kalwa to Gani	Do.	10	..	10
25	From Kalwa to Bétamacheruvu	Do.	5	6	11
26	From Panem to Gonavaram	Do.	6	2	8
27	From Banganapalle to Owk	Banganapalle .. / Koilkuntla ..	2 / 6	3 / 5	5 / 11
28	From Koilkuntla to Nosam and frontier towards Jammalamadugu	Do. ..	12	7	19
29	From Koilkuntla to Ramapuram on No. IX ..	Do. ..	..	16	16
30	From Chaygalmarri on No. IV to Mahadevapuram through Rudravaram and Sirvél ..	Sirvél	15	25	40
31	From Govindapalle on No. IV to Sirvél ..	Do.	3	..	3
32	From Sirvél to Yerraguntla on No. IV ..	Do.	4	..	4
33	From Cumbum on No, XI to join No. X at Tokapalli and on up to Errakondapalem.	Cumbum .. .. / Márkápur ..	6 / 8	.. / 8	6 / 16
34	Branch from No, 33 through Vémulakota to Márkápur	Do. ..	2	..	2
35	From Dupad on No. X towards Kistna frontier through Tripurantakum and Midivemula ..	Do. ..	8	8	16
36	From Pullalacheruvu to Vasalakonda, hamlet of Setakod, ...	Do. ..	2	..	2
37	From Cumbum to Márkápur ..	Cumbum .. / Márkápur .. / Nellore district ..	5 / 7 / 3	.. / .. / ..	5 / 7 / 3
38	Magutur to Gannepalli	Cumbum	2	..	2
39	From Mahadevapuram to Ardavid	Do.	6	..	6
40	From Taticherla on No. V to Cuddapah frontier.	Do.	16	..	16
41	From Komaravol through Charlakunta towards Pitikayagundla	Do.	..	15	15
42	From Cumbum through Turimella to Giddalur..	Do.	20	..	20
43	From Giddalur to Uyyalavada	Do.	7	5	12

Note.—This statement is neither entirely complete nor have the distances been accurately determined.

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APPENDIX IV.—Statement showing the receipts and charges for the Kurnool district during a series of years.

Receipts.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
	RS.	RS.	RS.	RS.	RS.
Land revenue	13,04,816	13,66,097	12,82,211	13,88,316	13,55,551
Stamps	84,026	82,642	89,543	98,887	99,334
Excise	1,68,834	1,72,705	3,52,140	3,59,603	4,10,162
Salt	..	9	22	35	66
Assessed taxes	25,382	20,045	17,086	17,342	29,969
Forest	36,556	70,649	86,262	72,617	97,506
Registration	5,562	5,369	6,554	8,469	9,233
Law and Justice	15,792	15,195	12,476	9,608	8,646
Police	9,382	10,919	12,991	13,143	16,263
Education	2,486	2,931	5,534	3,320	370
Medical	1,176	1,415	1,414	2,953	1,368
Scientific and other minor departments	682	733	879	944	1,018
Interest	16,546	14,662	13,172	87	11,653
Receipts in aid of superannuation, retired, &c.	193	603	635	123	2,771
Stationery and printing	2,279	2,245	2,865	4,001	4,629
Miscellaneous	1,715	2,463	1,452	1,322	860
Other public works	101	89	1,192	1,209	98
Adjusting heads	640	4,853	3,063	3,918	7,159
Local and Special funds	4,88,599	4,88,739	4,99,163	5,26,580	5,02,578
Excluded Local funds	541	104	192	168	180
Debt accounts	3,86,591	4,13,138	4,11,297	3,64,382	3,27,245
Remittances	3,39,355	3,48,802	14,10,317	12,89,776	11,67,588
Total Rupees	28,91,254	30,24,407	42,10,460	41,66,803	40,54,047

Charges.	1882-83.	1883-84.	1884-85.	1885-86.	1886-87.
	RS.	RS.	RS.	RS.	RS.
Interest on ordinary debt	70	23	8	7	306
Do. on other obligations	1,231	11	9	5	..
Refunds and drawbacks	23,893	2,271	2,175	15,387	1,445
Assignments and compensations	..	9,558	8,434	11,188	8,923
Land revenue	1,44,927	1,41,006	1,45,161	1,41,201	1,34,285
Stamps	2,156	2,142	2,510	2,808	2,947
Excise	..	66	405	217	..
Salt	..	9,115	8,651	8,882	8,904
Assessed taxes	..	113	91	104	2,218
Forest	16,492	30,864	41,988	34,913	33,281
Registration	7,520	8,932	9,999	12,787	13,973
Post office	3,456	3,451	3,456	3,352	3,313
General administration	..	111	..	566	772
Law and Justice	1,06,680	1,03,241	1,02,131	1,02,450	97,807
Police	1,37,502	1,42,765	1,44,030	1,42,970	1,42,739
Education	16,922	18,160	20,479	18,725	13,457
Mint	46	..	..	..	..
Ecclesiastical	1,388	1,344	1,344	1,283	1,045
Medical services	6,470	7,241	12,051	12,504	14,009
Political	1,240	1,440	1,440	1,440	1,440
Scientific and other minor departments	3,673	4,349	4,498	4,269	8,046
Territorial and Political pensions	67,950	56,884	57,210	57,778	55,436
Civil, furlough and absentee allowances.	..	..	..	180	140
Superannuation allowances and pensions.	13,993	13,027	13,056	13,481	15,412
Stationery and printing	2,393	2,375	2,434	2,506	2,425
Miscellaneous	5,314	4,377	3,531	3,777	2,743
Famine relief	66	625	8	196	..
Civil buildings, roads and services	9,948	5,204	5,200	3,733	..
Adjusting heads	647	2,229	3,138	2,564	5,197
Local and Special funds	4,64,118	4,93,487	4,95,630	4,75,216	4,90,571
Excluded Local funds	875	1,015	71	75	75
Debt accounts	4,08,076	4,39,983	4,30,109	3,80,836	4,36,976
Remittances	13,27,707	16,64,216	24,12,126	26,78,419	27,40,916
Total Rupees	27,74,753	31,69,625	39,31,423	41,33,819	42,38,801

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APPENDIX V-A.—Statement showing the amalgamation of taluks effected in fasli 1270, *i.e.*, A.D. 1860-61, under Mr. Pelly's revision of Revenue establishments. The figures in this statement up to fasli 1269, refer to the old arrangement of 12 taluks.

TALUKS AS THEY EXISTED DOWN TO FASLI 1269.		CORRESPONDING TALUKS AS EXISTING FROM FASLI 1270.	
Taluks.	Number of villages.	Taluks.	Number of villages.
1. Chaygalmarri	54	1. Sirvel	108
2. Sirvel	55		
	109		108
3. Nandyál	50	2. Nandyál	96
4. Paniem	46		
	96		96
5. Dhone	89	3. Rámallakót	145
6. Gúdúr	47		
	136		145
7. Nandikótkur	71	4. Nandikótkur	148
8. Atmakúr	77		
	148		148
9. Cumbum	168	5. Cumbum	168
10. Dupud	327	6. Márkápur	229
Of these 99 villages were retransferred to the Nellore district.			
11. Koilkuntla	90	7. Koilkuntla	97
12. Panchapaliem	192	8. Pattikonda	193
Grand Total, Villages ..	1,266		1,184

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Appendix V-B.—Statement showing assessment charged on uncultivated lands in the Kurnool District for a series of years.

Fasli.	Pattikonda Taluk.						Ramallakot Taluk.						Nandikotkur Taluk.					
	Dry.		Wet.		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.
1265 (1855-56)	Details not available.						Details not available.											
1266 (1856-57)																		
1267 (1857-58)					3,278	3,144					3,501	2,288					2,887	1,404
1268 (1858-59)					8,849	10,535					4,127	2,685					6,203	3,898
1269 (1859-60)					2,839	2,263					2,942	1,696					2,883	1,633
1270 (1860-61)					2,835	2,348					2,129	1,187					3,639	2,316
1271 (1861-62)					2,988	2,403					1,952	1,069					4,573	2,319
1272 (1862-63)					3,286	2,909					1,974	1,192					4,569	2,543
1273 (1863-64)					4,767	3,118					1,839	1,211					5,257	2,748
1274 (1864-65)																		
1275 (1865-66)	7,299	4,317	116	387	7,415	4,704	2,498	1,414	73	213	2,571	1,627	3,871	2,803	18	88	3,889	2,891
1276 (1866-67)	9,643	4,056	222	865	9,865	4,921	2,556	1,758	50	162	2,606	1,920	6,040	4,127	90	299	6,130	4,426
1277 (1867-68)	6,918	1,177	212	1,442	7,130	2,619	2,125	1,185	67	271	2,192	1,456	4,136	2,549	6	38	4,142	2,587
1278 (1868-69)	5,031	2,285	91	322	5,122	2,607	2,698	1,581	53	185	2,751	1,766	5,184	3,932	53	236	5,237	4,168
1279 (1869-70)	5,158	2,855	111	423	5,269	3,278	3,733	2,140	126	584	3,859	2,724	5,134	3,598	49	243	5,183	3,841
1280 (1870-71)	5,245	3,174	97	315	5,342	3,489	7,026	4,957	38	150	7,064	5,107	6,007	4,954	66	300	6,073	5,254
1281 (1871-72)	7,093	3,837	442	2,296	7,535	6,133	4,336	2,579	80	389	4,416	2,968	7,432	5,578	51	297	7,483	5,875
1282 (1872-73)	4,557	2,640	451	2,327	5,008	4,967	3,994	2,451	69	308	4,063	2,759	9,273	7,785	179	911	9,452	8,696
1283 (1873-74)	5,158	2,838	250	1,301	5,408	4,139	4,146	2,371	48	215	4,194	2,586	6,087	4,752	41	202	6,128	4,954
1284 (1874-75)	4,327	2,360	101	533	4,428	2,893	3,631	2,530	55	234	3,686	2,764	8,512	6,875	65	319	8,577	7,194
1285 (1875-76)	6,183	3,419	108	547	6,291	3,966	5,596	3,304	118	562	5,714	3,866	6,730	5,196	34	162	6,764	5,358
1286 (1876-77)	15,840	39,739	36	162	15,876	39,901	56,624	55,343	463	2,517	57,087	57,860	77,602	86,183	183	1,068	77,785	87,251
1287 (1877-78)	24,594	11,800	270	1,405	24,864	13,205	4,344	2,831	157	796	4,501	3,627	24,550	18,036	307	1,707	24,857	19,743
1288 (1878-79)	71,694	36,096	260	1,329	71,954	37,425	45,600	30,448	191	905	45,791	31,353	22,862	19,576	310	1,755	23,172	21,331
1289 (1879-80)	34,183	18,459	520	2,830	34,703	21,289	24,190	14,616	350	1,628	24,540	16,244	11,746	9,538	74	243	11,820	9,781
1290 (1880-81)	11,345	6,512	121	683	11,466	7,195	11,221	8,465	141	682	11,362	9,147	9,167	9,399	42	235	9,209	9,634
1291 (1881-82)	12,172	7,167	262	904	12,434	8,071	7,350	4,773	50	308	7,400	5,081	8,228	6,318	45	328	8,273	6,646
1292 (12-8883)	8,385	5,097	124	650	8,509	5,747	6,509	4,273	79	454	6,588	4,727	5,992	4,325	56	266	6,048	4,591
1293 (1883-84)	6,686	4,045	167	938	6,853	4,983	6,525	4,446	53	313	6,578	4,759	6,677	6,500	140	742	6,817	7,242
1294 (1884-85)	7,163	4,156	30	181	7,193	4,337	9,622	7,026	32	282	9,654	7,307	6,263	5,777	48	278	6,311	6,055
1295 (1885-86)	6,344	3,456	86	437	6,430	3,893	5,625	3,504	55	258	5,680	3,762	7,672	6,862	59	323	7,731	7,185
1296 (1886-87)	6,766	3,633	224	1,190	6,990	4,823	6,666	4,470	73	393	6,739	4,863	10,988	9,650	95	502	11,083	10,152,

Appendix V-B.—Statement showing assessment charged on uncultivated lands, &c.—*cont.*

Fasli.	Nandyal Taluk.						Koilkuntla Taluk.						Sirvel Taluk.					
	Dry.		Wet.		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
1265 (1855-56)	Details not available.																	
1266 (1856-57)																		
1267 (1857-58)																		
1268 (1858-59)					1,431	1,126					1,700	1,918					3,059	1,520
1269 (1859-60)					3,036	2,746					2,682	8,325					5,881	3,052
1270 (1860-61)					1,433	1,007					1,281	1,162					2,852	1,564
1271 (1861-62)	Details not available.				1,728	1,074	Details not available.				2,122	2,363	Details not available.				2,865	1,786
1272 (1862-63)					1,807	1,231					1,924	3,739					3,274	1,573
1273 (1863-64)					2,788	1,789					1,536	1,333					2,197	1,703
1274 (1864-65)					4,622	2,318					1,531	2,312					4,474	2,026
1275 (1865-66)	6,243	3,206	37	161	6,280	3,367	1,290	788	148	846	1,438	1,634	6,266	3,018	55	214	6,321	3,232
1276 (1866-67)	5,073	3,042	19	103	5,092	3,145	1,636	1,100	84	277	1,720	1,377	5,600	3,172	34	110	5,634	3,282
1277 (1867-68)	4,814	2,741	16	130	4,830	2,871	1,735	1,096	60	452	1,795	1,548	4,155	2,656	14	88	4,169	2,744
1278 (1868-69)	3,809	2,755	17	90	3,826	2,845	1,917	1,428	114	492	2,031	1,920	4,815	3,876	37	224	4,852	4,100
1279 (1869-70)	6,417	4,015	52	287	6,469	4,302	2,301	1,798	82	319	2,383	2,117	4,459	3,610	19	122	4,478	3,732
1280 (1870-71)	6,994	5,096	18	100	7,012	5,196	1,732	1,278	220	1,527	1,952	2,805	5,221	4,750	32	180	5,253	4,930
1281 (1871-72)	6,574	4,708	19	98	6,593	4,806	2,508	2,016	101	371	2,609	2,387	5,213	3,948	13	82	5,226	4,030
1282 (1872-73)	6,109	4,246	44	213	6,153	4,459	1,479	913	63	347	1,542	1,260	4,408	3,456	10	57	4,418	3,513
1283 (1873-74)	4,637	2,349	19	103	4,656	2,452	2,718	1,632	131	414	2,849	2,046	4,996	3,757	15	81	5,011	3,838
1284 (1874-75)	5,244	3,736	22	123	5,266	3,859	2,717	2,329	52	338	2,769	2,667	5,777	5,388	17	97	5,794	5,485
1285 (1875-76)	4,642	3,144	23	135	4,665	3,279	3,436	2,891	63	398	3,499	3,289	7,192	5,302	54	301	7,246	5,603
1286 (1876-77)	4,287	2,543	147	803	4,434	3,346	57,262	91,157	62	406	57,324	91,563	4,088	5,049	26	158	4,114	5,207
1287 (1877-78)	6,062	4,387	121	501	6,183	4,888	8,137	5,317	92	445	8,229	5,762	8,200	6,261	62	340	8,262	6,601
1288 (1878-79)	24,017	16,260	97	453	24,114	16,713	10,786	9,180	180	1,286	10,966	10,466	13,315	11,663	49	266	13,364	11,929
1289 (1879-80)	12,150	8,682	79	412	12,229	9,094	9,105	8,881	316	4,003	9,421	12,884	15,477	13,248	59	323	15,536	13,571
1290 (1880-81)	6,843	5,511	164	990	7,007	6,501	6,162	5,409	21	711	6,183	6,120	8,717	8,959	92	518	8,809	9,477
1291 (1881-82)	8,753	6,305	88	487	8,841	6,792	7,843	7,546	891	2,923	8,734	10,469	9,929	8,521	48	319	9,977	8,840
1292 (1882-83)	7,501	5,350	98	505	7,599	5,855	6,714	7,198	149	841	6,863	8,039	6,758	4,130	21	128	6,779	4,258
1293 (1883-84)	7,125	6,272	86	493	7,211	6,765	3,562	4,136	68	339	3,630	4,475	7,543	6,431	42	233	7,585	6,664
1294 (1884-85)	6,760	5,994	154	891	6,914	6,885	3,058	3,217	18	113	3,076	3,330	5,809	6,004	14	80	5,823	6,084
1295 (1885-86)	7,265	5,765	66	406	7,331	6,171	1,958	3,002	44	512	2,002	3,514	5,426	6,020	26	147	5,452	6,167
1296 (1886-87)	8,463	7,292	102	570	8,565	7,862	3,432	4,421	138	1,275	3,570	5,696	8,195	7,575	21	123	8,216	7,698

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Appendix V-B.—Statement showing assessment charged on uncultivated lands, &c.—*cont.*

Fasli.	Cumbum Taluk.						Markapur Taluk.						Total.					
	Dry.		Wet.		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.	Acs.	Rs.
1265 (1855-56) ..	Details not available.												Details not available.		Details not available.	5,877	Details not available.	6,575
1266 (1856-57) ..																698		7,091
1267 (1857-58) ..																5,862		
1268 (1858-59) ..					2,568	2,027					8,480	5,370				1,229		
1269 (1859-60) ..					6,466	5,740					10,949	9,275				6,725		
1270 (1860-61) ..					5,046	4,812					6,592	3,781	26,499	15,991	405	498	26,904	18,797
1271 (1861-62) ..	Details not available.				3,253	3,051	Details not available.				5,895	4,480	47,250	36,327	943	2,806	48,193	46,256
1272 (1862-63) ..					1,959	1,513					5,000	3,327	25,311	15,109	557	9,929	25,868	17,918
1273 (1863-64) ..					2,059	1,682					4,265	2,501	23,691	14,194	775	2,809	24,466	18,605
1274 (1864-65) ..					2,193	1,396					3,628	2,013	22,826	12,943	651	4,411	23,477	17,174
1275 (1865-66) ..	2,283	968	112	482	2,395	1,450	5,073	2,662	52	287	5,125	2,949	22,143	13,164	531	4,231	22,674	17,395
1276 (1866-67) ..	2,584	1,641	201	804	2,785	2,445	4,054	2,087	75	501	4,129	2,588	27,825	14,715	486	2,488	28,311	15,652
1277 (1867-68) ..	2,265	1,409	203	966	2,468	2,375	5,958	2,921	183	1,600	6,141	4,521	34,823	19,176	611	2,427	35,434	17,142
1278 (1868-69) ..	2,239	1,130	217	1,226	2,456	2,356	4,527	2,169	103	591	4,630	2,760	32,106	15,734	761	2,678	32,867	21,854
1279 (1869-70) ..	2,113	1,136	140	672	2,253	1,808	3,477	1,830	69	459	3,546	2,289	30,220	19,156	685	4,987	30,905	20,104
1280 (1870-71) ..	2,896	2,048	228	1,149	3,124	3,197	3,932	2,026	105	544	4,037	2,570	32,792	20,982	648	3,366	33,440	22,522
1281 (1871-72) ..	3,048	2,146	235	1,225	3,283	3,371	4,290	2,288	77	373	4,367	2,661	39,053	28,283	804	3,109	39,857	24,091
1282 (1872-73) ..	2,784	1,474	254	1,384	3,038	2,858	4,054	2,113	103	608	4,137	2,721	40,494	27,100	1,018	4,265	41,512	32,648
1283 (1873-74) ..	4,357	2,014	220	1,028	4,577	3,042	7,025	3,396	140	885	7,165	4,281	36,638	25,078	1,173	5,131	37,811	32,231
1284 (1874-75) ..	5,056	2,249	191	842	5,247	3,091	6,435	2,943	60	317	6,495	3,260	39,124	23,109	864	6,155	39,988	31,233
1285 (1875-76) ..	7,594	3,642	278	1,319	7,872	4,961	7,944	3,504	105	1,120	8,049	4,624	41,699	28,410	563	4,229	42,262	27,338
1286 (1876-77) ..	861	596	256	1,521	1,117	2,117	1,653	864	137	807	1,790	1,671	49,317	30,402	783	2,803	50,100	31,213
1287 (1877-78) ..	4,978	2,584	224	1,276	5,202	3,860	20,584	9,795	874	3,899	21,458	13,694	218,217	2,81,474	1,310	4,544	219,527	34,946
1288 (1878-79) ..	19,565	12,410	427	2,769	19,992	15,179	13,073	6,552	261	1,260	13,334	7,812	101,449	61,011	2,107	7,442	103,556	2,88,916
1289 (1879-80) ..	14,367	8,816	677	3,541	15,044	12,357	9,846	4,889	425	2,271	10,271	7,160	220,912	1,42,185	1,775	10,369	222,687	71,380
1290 (1880-81) ..	8,468	5,077	348	2,278	8,816	7,355	7,797	3,924	360	1,770	8,157	5,694	131,064	87,129	2,500	10,023	133,564	1,52,208
1291 (1881-82) ..	7,493	4,322	316	1,830	7,809	6,152	9,161	4,430	149	762	9,310	5,192	69,720	53,256	1,289	15,251	71,009	1,02,380
1292 (1882-83) ..	5,378	2,810	233	1,352	5,611	4,162	6,953	3,250	220	940	7,173	4,190	70,929	49,382	1,849	7,867	72,778	61,123
1293 (1883-84) ..	6,068	3,609	364	1,659	6,432	5,268	8,306	3,959	132	684	8,438	4,643	54,190	36,433	980	7,861	55,170	57,243
1294 (1884-85) ..	6,849	4,083	364	1,709	7,213	5,792	10,309	4,897	612	2,989	10,921	7,886	52,492	39,398	1,052	5,136	53,544	41,569
1295 (1885-86) ..	5,584	3,017	167	1,041	5,751	4,058	6,761	2,839	602	3,230	7,363	6,069	55,833	41,153	1,272	5,401	57,105	44,799
1296 (1886-87) ..	6,396	3,656	244	1,547	6,640	5,203	11,676	5,332	239	1,203	11,915	6,535	46,635	34,465	1,105	6,354	47,740	47,676
													62,582	46,029	1,136	6,803	63,718	40,819
																		52,832

N.B.—See notes appended to statement A.

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Appendix V-C.—Statement showing assessment remitted on uncultivated land in the Kurnool district for a series of years.

Fasli.	Pattikonda Taluk.						Ramallakot Taluk.						Nandikotkur Taluk.					
	Dry.*		Wet.*		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
1265 (1855-56)	Details not available.																	
1266 (1856-57)																		
1267 (1857-58)																		
1268 (1858-59)					2,415	4,809					3,111	5,302					2,004	1,585
1269 (1859-60)					609	1,662					37	274					51	78
1270 (1860-61)					865	4,092					298	1,772					..	..
1271 (1861-62)					395	2,270					338	2,581					45	168
1272 (1862-63)					..	..					179	1,452					114	74
1273 (1863-64)					129	618					257	2,155					..	..
1274 (1864-65)					993	5,575					226	1,070					..	..
1275 (1865-66)	9,761	12,400	612	3,184	10,373	15,584	..	..	192	1,181	192	1,181	..	..	..	..	..	..
1276 (1866-67)	4,155	1,668	471	2,386	4,626	4,054	..	..	198	1,104	198	1,104	..	..	..	..	..	..
1277 (1867-68)	..	..	779	4,279	779	4,279	..	..	170	903	170	903	..	..	..	..	..	..
1278 (1868-69)	..	..	23	135	23	135	..	..	27	141	27	141	..	..	..	..	..	..
1279 (1869-70)	..	..	118	638	118	638	..	..	118	599	118	599	..	..	..	..	..	..
1280 (1870-71)	..	..	8	46	8	46	..	..	30	167	30	167	..	..	5	25	5	25
1281 (1871-72)	..	..	902	4,747	902	4,747	..	..	228	1,149	228	1,149	..	..	18	95	18	95
1282 (1872-73)	..	..	371	2,008	371	2,008	..	..	270	1,356	270	1,356	..	..	7	33	7	33
1283 (1873-74)	..	..	151	847	151	847	..	..	93	478	93	478	..	..	..	..	..	..
1284 (1874-75)	..	..	6	31	6	31	..	..	15	76	15	76	..	..	..	..	..	..
1285 (1875-76)	..	..	93	533	93	533	..	..	197	1,006	197	1,006	..	..	..	..	..	..
1286 (1876-77)	57,186	33,456	2,300	12,787	59,486	46,243	54,126	41,094	1,028	5,234	55,154	46,328	34,156	35,133	197	1,127	34,353	36,260
1287 (1877-78)	37,486	15,731	132	638	37,618	16,369	54,729	29,772	479	2,480	55,208	32,252	..	..	..	..	..	..
1288 (1878-79)	..	..	13	55	13	55	..	..	170	864	170	864	..	..	..	..	..	..
1289 (1879-80)	..	..	214	1,305	214	1,305	..	..	265	1,355	265	1,355	..	..	..	..	..	..
1290 (1880-81)	..	..	1,814	10,283	1,814	10,283	..	..	673	3,614	673	3,614	..	..	..	..	..	..
1291 (1881-82)	..	..	1,316	8,010	1,316	8,010	..	..	406	2,245	406	2,245	..	..	..	..	..	..
1292 (1882-83)	..	..	1,427	8,178	1,427	8,178	..	..	368	1,815	368	1,815	..	..	..	..	..	..
1293 (1883-84)	..	..	1,007	5,861	1,007	5,861	..	..	186	920	186	920	..	..	..	..	..	..
1294 (1884-85)	4,352	5,085	2,301	13,190	6,653	18,275	..	..	827	4,190	827	4,190	..	..	..	..	..	..
1295 (1885-86)	..	..	741	4,385	741	4,385	..	..	59	396	59	396	..	..	..	..	..	..
1296 (1886-87)	..	..	564	3,344	564	3,344	..	..	145	720	145	720	..	..	..	..	..	..

* In the district accounts prior to fasli 1275 the lands are shown under three heads, dry, wet and garden; in this statement dry and garden have been shown together under the head dry.

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APPENDIX V-C.—Statement showing assessment remitted on uncultivated land in the Kurnool district for a series of years.—*cont.*

Fasli.	Nandyal Taluk.						Koilkuntla Taluk.						Sirvel Taluk.					
	Dry.		Wet.		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
1265 (1855-56)	Details not available.						Details not available.											
1266 (1856-57)																		
1267 (1857-58)																		
1268 (1858-59)					1,560	2,254					1,367	3,863					1,302	1,104
1269 (1859-60)					131	322					13	56					38	10
1270 (1860-61)					..	..					287	3,572					..	..
1271 (1861-62)					..	..					8	97					..	..
1272 (1862-63)					..	..					..	..					..	..
1273 (1863-64)					..	..					197	1,828					..	..
1274 (1864-65)					646	1,424					..	..					..	..
1275 (1865-66)	329	795	12	87	341	882	..	..	10	43	10	43	..	..	..	..	..	..
1276 (1866-67)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1277 (1867-68)	..	..	..	..	..	..	..	..	291	2,981	291	2,981	..	..	..	..	..	..
1278 (1868-69)	..	..	..	..	..	..	..	..	..	..	..	..	26	13	..	..	26	13
1279 (1869-70)	..	..	..	..	..	..	..	..	6	50	6	50	..	..	..	..	..	..
1280 (1870-71)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1281 (1871-72)	..	..	..	..	..	..	..	..	307	3,407	307	3,407	..	..	..	..	..	..
1282 (1872-73)	..	..	..	..	..	..	..	..	127	1,105	127	1,105	..	..	..	..	..	..
1283 (1873-74)	..	..	..	..	..	..	..	..	15	60	15	60	..	..	..	..	..	..
1284 (1874-75)	..	..	..	..	..	..	..	..	282	1,657	282	1,657	..	..	..	..	..	..
1285 (1875-76)	..	..	..	..	..	..	..	..	67	375	67	375	..	..	..	..	..	..
1286 (1876-77)	52,940	58,020	332	1,926	53,272	59,946	43,993	50,233	1,264	9,139	45,257	59,372	24,118	24,848	27	141	24,145	24,989
1287 (1877-78)	20,537	10,891	86	477	20,623	11,368	2,107	861	..	..	2,107	861	6,795	4,058	21	107	6,816	4,165
1288 (1878-79)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1289 (1879-80)	..	..	..	..	..	..	..	..	11	77	11	77	..	..	..	..	..	..
1290 (1880-81)	..	..	..	..	..	..	..	..	319	2,392	319	2,392	..	..	..	..	..	..
1291 (1881-82)	..	..	..	..	..	..	..	..	169	1,447	169	1,447	..	..	..	..	..	..
1292 (1882-83)	..	..	..	..	..	..	..	..	73	498	73	498	..	..	..	..	..	..
1293 (1883-84)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1294 (1884-85)	..	..	..	..	..	..	..	..	446	3,601	446	3,601	..	..	6	30	6	30
1295 (1885-86)	..	..	28	169	28	169	..	..	..	..	..	..	..	..	..	..	..	..
1296 (1886-87)	..	..	25	154	25	154	..	..	..	..	..	..	..	..	..	..	..	..

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APPENDIX V-C.—Statement showing assessment remitted on uncultivated land in the Kurnool District for a series of years—*cont.*

Fasli.	Cumbum Taluk.						Markapur Taluk.						Total.					
	Dry.		Wet.		Total.		Dry.		Wet.		Total.		Dry.		Wet.		Total.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.	ACS.	RS.
1265 (1855-56) ..	Details not available.												Details not available.*	10,842	Details not available.*	6,340	Details not available.*	17,182
1266 (1856-57) ..														6,095		644		6,739
1267 (1857-58) ..														3,960		466		4,426
1268 (1858-59) ..					3,872	6,996					12,415	19,967	25,726	27,537	2,320	18,343	28,046	45,880
1269 (1859-60) ..					1,613	2,120					2,586	5,363	4,418	4,232	660	5,653	5,078	9,885
1270 (1860-61) ..					1,006	9,475					1,140	11,311	624	2,364	2,972	27,858	3,596	30,222
1271 (1861-62) ..	Details not available.				761	3,363	Details not available.				555	6,111	603	1,910	1,499	12,680	2,102	14,590
1272 (1862-63) ..					1,102	3,065					681	6,244	1,108	1,899	963	8,936	2,076	10,835
1273 (1863-64) ..					318	2,404					284	2,399	53	255	1,132	9,149	1,185	9,404
1274 (1864-65) ..					244	1,832					275	2,550	682	1,552	1,702	10,899	2,384	12,451
1275 (1865-66) ..	..	..	3	15	3	15	..	..	784	7,397	784	7,397	10,090	13,195	1,613	11,907	11,703	25,102
1276 (1866-67) ..	..	..	21	115	21	115	..	..	720	7,097	720	7,097	4,155	1,668	1,410	10,702	5,565	12,370
1277 (1867-68) ..	..	..	377	2,608	377	2,608	..	..	624	6,212	624	6,212	..	..	2,241	16,983	2,241	16,983
1278 (1868-69) ..	..	..	122	853	122	853	..	..	600	4,799	600	4,799	26	13	772	5,928	798	5,941
1279 (1869-70) ..	..	..	6	50	6	50	..	..	372	3,250	372	3,250	..	..	625	4,612	625	4,612
1280 (1870-71) ..	..	..	53	365	53	365	..	..	183	1,673	183	1,673	..	..	292	2,346	292	2,346
1281 (1871-72) ..	..	..	304	2,340	304	2,340	..	..	192	1,730	192	1,730	..	..	1,940	13,406	1,940	13,406
1282 (1872-73) ..	..	..	54	415	54	415	..	..	1,026	9,491	1,026	9,491	..	..	1,848	14,375	1,848	14,375
1283 (1873-74) ..	..	..	10	70	10	70	..	..	139	1,286	139	1,286	..	..	408	2,741	408	2,741
1284 (1874-75) ..	..	..	..	..	..	..	..	..	168	1,166	168	1,166	..	..	471	2,930	471	2,930
1285 (1875-76) ..	..	..	17	87	17	87	..	..	720	5,310	720	5,310	..	..	1,094	7,311	1,094	7,311
1286 (1876-77) ..	42,242	32,082	1,692	10,649	43,934	42,731	49,032	27,317	2,095	14,733	51,127	42,050	357,793	3,02,183	8,935	55,736	3,66,728	3,57,919
1287 (1877-78) ..	19,773	10,007	442	2,393	20,215	12,400	4,187	1,701	313	1,718	4,500	3,419	145,614	73,021	1,473	7,813	1,47,087	80,834
1288 (1878-79) ..	..	..	378	1,538	378	1,538	..	..	296	1,895	296	1,895	..	..	857	4,352	857	4,352
1289 (1879-80) ..	..	..	122	628	122	628	..	..	1,369	7,840	1,369	7,840	..	..	1,981	11,205	1,981	11,205
1290 (1880-81) ..	..	..	54	355	54	355	..	..	705	4,726	705	4,726	..	..	3,565	21,370	3,565	21,370
1291 (1881-82) ..	..	..	191	1,115	191	1,115	..	..	1,475	9,293	1,475	9,293	..	..	3,557	22,110	3,557	22,110
1292 (1882-83) ..	..	..	111	624	111	624	..	..	30	188	30	188	..	..	2,009	11,303	2,009	11,303
1293 (1883-84) ..	..	..	2	9	2	9	..	..	10	35	10	35	..	..	1,205	6,825	1,205	6,825
1294 (1884-85) ..	..	..	11	32	11	32	..	..	708	4,331	708	4,331	4,352	5,085	4,299	25,374	8,651	30,459
1295 (1885-86) ..	..	..	15	68	15	68	..	..	816	5,277	816	5,277	..	..	1,659	10,295	1,659	10,295
1296 (1886-87) ..	..	..	25	151	25	151	..	..	84	562	84	562	..	..	843	4,931	843	4,931

* These figures refer to the 8 taluks, of which only the district consisted prior to fasli 1268 :—

1. Chaygalmarri.
2. Sirvel.
3. Nandyál.
4. Paniem.
5. Dhone.
6. Gádúr.
7. Nandikétkur.
8. Atmakúr.

The following four taluks were subsequently added :—

9. Cumbum,
10. Dupád,
11. Koilkuntla,
12. Panchapaliem.

} From Cuddapah district.

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APPENDIX VI.—Statement showing the average number of people on relief works and on gratuitous relief in the Kurnool district for each month during the famine of 1876—78.

Month and year.	Average number on		Total.	Per cent of population in 1871.
	Relief works.	Gratuitous relief.		
December 1876	170,625	2,941	173,566	18·09
January 1877	289,173	6,677	295,850	30·83
February ,,	239,208	3,701	242,909	25·31
March ,,	195,415	25,534	220,949	23·02
April ,,	209,146	49,720	258,866	26·98
May ,,	206,365	62,528	268,893	28·02
June ,,	206,557	58,892	265,449	27·66
July ,,	208,421	64,257	272,678	28·41
August ,,	212,819	86,985	299,804	31·24
September ,,	178,695	107,617	286,312	29·84
October ,,	111,272	92,449	203,721	21·23
November ,,	54,134	56,069	110,203	11·48
December ,,	20,055	37,405	57,460	5·99
January 1878	5,251	17,509	22,760	2·37
February ,,	428	10,322	10,750	1·12
March ,,	...	5,684	5,684	0·59
April ,,	...	5,976	5,976	0·62
May ,,	...	6,934	6,934	0·72
June ,,	4,597	6,146	10,743	1·12
July ,,	13,216	6,126	19,342	2·02
August ,,	14,781	5,688	20,469	2·13
September ,,	15,365	5,882	21,247	2·21
Total ...	2,355,523	725,042	3,080,565	...
Average over 22 months ...	107,069	32,956	140,025	14·59
Total cost Rupees ...	74,69,167	12,50,553	87,19,720	...

STATEMENT showing the number of persons relieved by Government during the course of the famine of 1876—78 and their percentage to the total population of the district, including the Banganapalle State.

Total population of the district.	During the week ending	Number of persons relieved						Percentage of number relieved to total population.
		On relief works.	On gratuitous relief.				Grand Total.	
			In camps, &c.	In villages.	Children of coolies at 3 pies per diem.	Total.		
959,640, including the Native State of Banganapalle.	16th Dec. 1876	168,388	..	..	..	704	169,092	17·62
	6th Jan. 1877	323,343	..	..	..	17,379	340,722	35·51
	3rd Feb. ,,	291,211	..	..	..	3,674	294,885	30·73
	3rd Mar. ,,	197,270	..	..	..	3,651	200,921	20·94
	7th April ,,	216,765	..	..	..	46,841	263,606	27·47
	5th May ,,	204,789	6,864	14,037	43,916	64,817	269,606	28·09
	2nd June ,,	205,208	6,716	4,614	49,281	60,611	265,819	27·70
	7th July ,,	212,516	10,412	5,519	40,268	56,199	268,715	28·00
	4th Aug. ,,	213,477	..	..	..	76,032	289,509	30·17
	8th Sept. ,,	191,673	25,031	51,588	32,352	108,971	300,644	31·33
	6th Oct. ,,	129,795	15,676	71,933	16,899	104,508	234,303	24·42
	10th Nov. ,,	50,626	4,112	48,119	6,839	59,070	109,696	11·43
	8th Dec. ,,	19,974	716	39,082	1,354	41,152	61,126	6·37
	5th Jan. 1878	11,266	186	22,043	578	22,807	34,073	3·55
	9th Feb. ,,	772	283	11,153	95	11,531	12,303	1·28
	9th Mar. ,,	..	261	6,142	..	6,403	6,403	0·67
	6th April ,,	..	491	4,999	..	5,490	5,490	0·57
	8th May ,,	..	3,294	2,875	..	6,169	6,169	0·64
	8th June ,,	..	5,225	1,498	..	6,723	6,723	0·70
	6th July ,,	10,409	4,192	510	729	5,431	15,840	1·65
	10th Aug. ,,	14,770	3,765	429	1,558	5,752	20,522	2·14
	7th Sept. ,,	15,205	3,819	358	1,999	6,176	21,381	2·23
	5th Oct. ,,	14,127	3,207	311	1,622	5,140	19,267	2·01
	2nd Nov. ,,	8,115	1,795	257	1,003	3,055	11,170	1·16
	7th Dec. ,,	651	1,308	..	13	1,321	1,972	0·20

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APPENDIX VII.—Statement showing the Villages included in the different tracts in the Kurnool District.

KURNOOL TRACT.

RAMALLAKOT TALUK.

Government Villages.

Map No.		Map No.		Map No.	
57	Amadagunta.	5	Joharapuram.	42	Pandipad.
54	Anugundla.	6	Kallur.	31	Parla.
26	Basvapuram.	14	Kontalapad.	28	Peddapad.
50	Bastipad.	70	Konganapad.	49	Pedda Tekur.
55	Budidapad.	7	Kurnool.	56	Penchikalapad.
75	Chinna Tekur.	39	Kuruba Nagalapuram.	52	Pusulur.
1	Devamada.	59	Laddagiri.	32	Regadakhanapuram.
44	Dinnedevarapad.	41	Lanjapolur.	25	Remata.
43	Dupad.	73	Mallapuram (Chetla).	29	Salakapuram.
13	Edurur.	9	Mamidyalapad.	67	Tala Gokulapad.
30	Gokulapad (Aiyavara).	40	Markapuram.	3	Tandrapad (Eti).
2	Gondiparla.	10	Munagalapad.	27	Ulchala.
12	Gopalasingavaram.	72	Nayakallu.	71	Ulivendakonda.
61	Gorantla.	11	Niduzur.		
38	Gudipad.	4	Panchalingala.		

Agraharams.

51	Bollavaram.	53	Remadur.
60	Erragudi.	8	Roja.

BELLAGAL TRACT.

PATTIKONDA TALUK.

Government Villages.

25	Agraharam (Bandamida.)	8	Gonegandla.	45	Mutukur.
46	Alaradinne.	14	Hindrikhiruvadi.	60	Nalakaduddi.
3	Alavala.	13	Iyiranbanda.	22	Palakurti.
28	Bailupattikonda.	59	Jutur.	9	Pedda Maravadi.
24	Bailuppali.	11	Kadavalli.	6	Pedda Nelatur.
31	Banapanur.	2	Kambadahalu.	32	Potlapad.
1	Bellagal.	10	Kandanati.	5	Pulakurti.
44	Billekal.	30	Karumanchi.	23	Taranikallu.
4	Burandoddi.	43	Khairuppali.	20	Tippanur.
62	Chinnahulti.	17	Kodumur.	16	Varakur.
27	Chinna Pendekal.	7	Kulamala.	15	Vemugod.
29	Dadadadikotakonda.	42	Kunkanur.	21	Yerrabad.
61	Devanabanda.	18	Mudamalagutti.		
12	Ganjihalli.	26	Mulagundam.		

Agraharam.

19 Lingamudinne.

RAMALLAKOT TALUK.

Government Villages.

93	Amakatad.	17	Kondapuram.	19	Palakadoddi.
35	Brahmanadoddi.	16	Kottakota.	21	Polukallu.
36	Chanugundla.	65	Kristnagiri.	34	Ponnakallu.
92	Cherukulapad.	24	Mallapuram.	63	Potugallu.
33	Gudur.	69	Mallepalle.	37	Pyalakurti.
18	Gundrevula.	62	Mannekunta.	15	Sunkesula.
22	Julakallu.	23	Munagala.	66	Togarched.
94	Kambhalapad.	68	Narlapuram.	58	Yerradoddi.

Agraharam.

20 Malesompuram.

NATIONAL ARCHIVES OF INDIA

HOSUR TRACT.

Pattikonda Taluk.

Government Villages.

Map No.		Map No.		Map No.	
85	Agraharam (Maddikera).	88	Kancharadinne.	81	Putchakayalamada.
83	Buruzula.	84	Maddikera.	86	Yadavalli.
87	Hampa.	63	Pedda Hulti.		
82	Hosur.	80	Peravali.		

PIAPALLE TRACT.

Pattikonda Taluk.

Government Villages.

38	Agaveli.	92	Kadamakuntla.	57	Pandikona.
52	Alamkonda.	94	Kalachatla.	64	Pattikonda.
55	Bondimadugula.	34	Kappatralla.	66	Pendekall.
65	Chekkaralla.	33	Karivemula.	100	Piapalle.
40	Chellelachelime.	53	Katarukonda.	74	Podilla.
76	Chennampalli.	37	Kotakonda.	97	Potedoddi.
48	Devanakonda.	75	Kottaburuzu.	78	Ratana.
71	Devarabanda.	73	Kottakota.	68	Tsanugondla.
58	Dudekonda.	36	Kurnur.	79	Tuggali.
77	Edduladoddi.	51	Lakkamsagaram.	47	Velamakur.
70	Eddupenta.	35	Machapuram.	101	Vengalampalli.
49	Gundlakonda.	67	Mukkella.	50	Yerragudi (Chenchu).
41	Jilledabudakala.	56	Nallachelimala.	91	Yerragudi (Gooti).
89	Jonnagiri.	90	Pagadarayi.		

Agraharams.

69	Gundala.	96	Nallapalli.	95	Rayampet.
54	Linganenidoddi.	93	Rangapuram.	39	Timmapuram.

Ramallakot Taluk.

Government Villages.

98	Bogolu.	100	Lanjabanda.	91	Veldurti.
95	Chityala.	87	Narasapuram.	96	Venkatapuram.
103	Govardhanagiri.	99	Sudapalli.	107	Yapadinne.
97	Jagadurti.	104	Udumalapad.	64	Yerukulacheruvu.
102	Kamaganikuntla.	106	Ungaralagundla.		

Agraharams.

89	Boyanapalli.	101	Peremala.

SOUTH ERRAMALA TRACT.

Pattikonda Taluk.

Government Villages.

109	Burugala.	104	Jaladurgam.	106	Munimadugu.
102	Chandrapalli.	103	Kommemarri.	108	Nereducherla.
99	Gudipad.	105	Madhavaram.	107	Racherla.
98	Jakkasanikuntla.	72	Mettupalli.		

Koilkuntla Taluk.

Government Villages.

86	Kunukuntla.	84	Ramavaram.	67	Vuppalapad.
58	Petnikota.	85	Vajragiri.	66	Zunutula.

NORTH ERRAMALA TRACT.

Ramallakot Taluk.

76	Bodduvanipalli.	78	Midivemula.	79	Uppalapad.
84	Bukkapuram.	86	Pendekallu.	80	Uyyalavada.
105	Dhonu.	81	Pullagummi.	74	Yaparlapad.
83	Kalugotla.	82	Rámallakót.	85	Yembayi.
108	Kocheruvu.	88	Sarafarazupuram.		
109	Malkapuram.	48	Tadakanapalli.		

Agraharam.

Valsala.

NATIONAL ARCHIVES OF INDIA

Nandyal Taluk.

Government Villages.

Map No.		Map No.		Map No.	
63	Alamur.	32	Kalwa.	33	Palakolanu.
60	Ambapuram.	56	Kolumulapalli.	38	Panem.
55	Betamcherla.	62	Konided.	59	Rangapuram.
37	Bugganapalli.	35	Komaravol.	36	Somayazulapalle.
61	Gollagunta.	58	Kottapalli.	31	Tammirazupalle.
57	Gutapalle.	34	Muddavaram.		

NANNUR TRACT.

Ramallakot Taluk.

Government Villages.

77	Loddipalli.	46	Pulacheruvu.	45	Tandrapad (Banda).
47	Nannur.				

Nandikotkur Taluk.

Government Villages.

99	Bannur.	90	Kadamur.	91	Nagaluti.
65	Bapanakotukur.	100	Karanamadukula.	96	Pasupula.
66	Damagatla.	98	Ketavaram.	64	Pudur.
93	Diguvapad.	92	Masapet.	95	Rudravaram.
94	Gadidemadugu.				

Agraharam.

97 Nutanapalli.

Nandyal Taluk.

Government Villages.

15	Guttapad.	16	Konatalapad.	14	Voravakollu.
17	Hussainpuram.				

NANDIKOTKUR TRACT.

Nandikotkur Taluk.

Government Villages.

77	Abdullapuram.	84	Jelakanur.	19	Pratakota.
72	Alaganur.	49	Jutur.	81	Regadagudur.
62	Allúr.	31	Kokkirantsa.	71	Rollapad.
48	Bannur (Jupad).	38	Konidela.	42	Satanikota.
69	Bhairavapuram.	82	Korrapolur.	12	Siddeswaram.
27	Bhanumukkala.	36	Lakshmapuram.	85	Sunkesula.
41	Bijinivemula.	57	Lingapuram.	83	Talamudipi.
13	Biravol.	44	Maddigatla.	46	Tangedantsa.
47	Bollavaram (Tatipad).	75	Maddur.	56	Tarigoppula.
67	Bollavaram.	43	Malyala.	60	Tartur.
89	Chavutakur.	45	Malyem.	35	Tatipad.
50	Chelimilla.	87	Midutur.	59	Timmapuram.
70	Cherukucharla.	55	Mittakandala.	74	Tudicherla.
86	Chintalapalli.	40	Morvakonda.	33	Tummalur.
88	Devanur.	18	Muchumarri.	63	Vaddamanu.
30	Duddyala.	39	Nagatur.	73	Vanala.
32	Edurupad.	61	Nandikótkur.	16	Vellala.
10	Erramatampalli.	37	Pagidala.	80	Velpunur.
34	Ganapavaram.	17	Palamarri.	54	Vempenta.
76	Guntakandala.	52	Pamulapad.	11	Virabhadradurgam.
68	Ipanaguntla.	58	Parumanchala.	15	Virapuram.
29	Iskala.				

Agraharams.

51	Kambalapalli.	28	Karivena.	14	Sangameswaram.

NATIONAL ARCHIVES OF INDIA

Nandyal Taluk.

Government Villages.

Map No.		Map No.		Map No.	
5	Bilakalagudur.	7	Gadivemula.	12	Sekunala.
18	Brahmanapalli.	11	Gani.	13	Tippayapalle.
9	Channakkapalli.	10	Manchalakatta.		

ATMAKUR TRACT.

Nandikotkur Taluk.

Government Villages.

1	Atmakúr.	6	Kottapalli.	23	Pinnapuram.
78	Boyarevula.	4	Kurukunda.	3	Ramapuram.
21	Gokavaram.	79	Modukur.	25	Siddepalli.
8	Gummadapuram	9	Mosalimadugu.	7	Sivapuram.
5	Guvvalagunta.	26	Nallakalava.	53	Velugodu.
2	Indireswaram.	22	Nandikunta.		

Agraharams.

20	Buttuvanipalli.	4	Kristnapuram.

NALLAMALA TRACT.

Nandyal Taluk.

Government Villages.

70	Ayalur.	24	Ghalichennayapalem.	1	Narayanapuram.
92	Basavapuram.	77	Gopavaram.	2	Peddadevalapuram.
49	Bayyapakodur.	47	Kadamalakalava.	25	Ramapuram.
73	Bollavaram.	71	Kottala.	23	Santazutur.
48	Bukkapuram.	78	Masidupuram.	75	Tamballapalle.
46	Ernipad.	76	Nandipalli.	74	Timmapuram.
91	Gazulapalli.				

Sirvel Taluk.

Government Villages.

21	Biravol.	3	Gangavaram.	25	Peddakambalur.
2	Boyalakuntla.	18	Govindapalle.	28	Perur.
42	Chandlur.	19	Kaminenipalli.	39	Rudravaram.
4	Chennur.	38	Kondamayapalle.	20	Sirvél.
26	Chinnakambalur.	22	Kotakonda.	23	Srirangapuram.
24	Ellavattula.	30	Kotapad.	40	Tallalingamdinne.
37	Erragudidinne.	1	Mahadevapuram.	27	Velagalapalli.
29	Erraguntla.	41	Nagulavaram.		

KUNDER TRACT.

Nandyal Taluk.

Government Villages.

85	Anupur.	19	Gadigerevula.	51	Nandyál.
50	Ayavarikodur,	87	Gaggatur.	66	Neravada.
54	Balapanur.	64	Gonavaram.	69	Nunepalli.
26	Bandiatmakur.	30	Gorakallu.	22	Paramatur.
43	Bhimavaram.	88	Guntanala.	45	Parnapalli.
3	Bhojanam.	44	Kakanur.	4	Pesaravayi.
65	Bhupanapad.	80	Kanala.	53	Polur.
72	Billalapuram.	21	Karimaddula.	42	Pulimaddi.
90	Brahmanapalli.	67	Kavulur.	83	Pusulur.
6	Budanur.	40	Kondazutur.	52	Rayamalpuram.
81	Chapirevula.	28	Koratamaddi.	20	Tirripad.
79	Chebol.	86	Kottur.	82	Togaruched.
39	Chilakala.	84	Maddur.	68	Udumalpuram.
8	Chindukur.	89	Mittanala.	27	Yerraguntla.
29	Durvesi.	41	Munagala.		

NATIONAL ARCHIVES OF INDIA

Koilkuntla Taluk.

Government Villages.

Map No.		Map No.		Map No.	
72	Akumalla.	64	Kalavatala.	35	Reddivari Jammuladinne.
73	Alavakonda.	8	Kalugotla.	3	Revanur.
41	Allur.	16	Kampamalla.	38	Rupanagudi.
21	Amudala.	24	Koilkuntla.	33	Sarvepalli.
11	Arjunapuram.	13	Kondapuram.	22	Savudaradinne.
17	Bhimunipad.	32	Kondupalli.	75	Sivavaram.
20	Bijinivemula.	6	Kopperla (Chinna).	40	Suddamalla.
37	Bodemmanur.	7	Kopperla (Pedda).	51	Timmanayanipet.
50	Boyalatadiparru.	63	Kotapad.	10	Tsakirazuvemula.
12	Burrareddipalli.	26	Kristipad.	71	Tsanugondla.
23	Chintakunta.	2	Lingala.	43	Tudumuladinne.
15	Dornipad.	44	Lingamdinne.	4	Vallampad.
9	Govindinne.	42	Mayalur.	19	Velagatur.
14	Gubagundam Jammala-dinne.	74	Mukkamalla.	81	Vemulapad.
		60	Nandipad.	46	Venaturla (Pedda).
27	Gulladurti.	45	Nosam.	49	Vuppalur.
1	Gundupapala.	29	Padigepad.	5	Vuppatur.
48	Hanumadagundam.	30	Papampalli.	39	Vuyyalavada.
28	Harivaram.	34	Peddayammanur.	47	Yarragudi.
31	Injedu.	61	Perusomala.	18	Zoladarasi.
36	Kakaravada.	25	Pottipad.		

Agraharam.

62 Dattapuram.

Sirvel Taluk.

Government Villages.

36	Battulur.	33	Jinepalle.	44	Nallagatla.
43	Chilakalur.	9	Julapalle.	10	Pasarapad.
59	Chintakunta.	17	Kanalapalle.	80	Rachaveli.
82	Daddanala.	32	Kristnapuram.	12	Rayapad.
58	Devarayapuram.	13	Kulur.	5	Sambavaram.
6	Dibaguntla.	83	Kulur.	11	Tellapuri.
45	Gopalapuram.	61	Lingamdinne.	35	Vanikamdinne.
15	Gosapad.	8	Mallappa-chintagunta.	14	Vantivelagala.
57	Gubagundam.	81	Mallemala.	31	Yallur.
34	Gumparamanadinne.	46	Mandalur.		
16	Jillella.	7	Nagulavaram.		

OWK TRACT.

Koilkuntla Taluk.

Government Villages.

55	Abdullapuram.	83	Gullasingavaram.	69	Ramapuram.
82	Annavaram.	59	Itikala.	70	Sangapatnam.
78	Avuku.	65	Kolimigundla.	77	Singanapalli.
76	Chennampalli.	54	Korumanupalli.	53	Tallamadugu.
68	Cherlapalli.	79	Mettapalli.	57	Tummalapenta.
56	Chintalayapalli.	80	Nichenametla.		

Agraharam.

52 Chennampalli.

NATIONAL ARCHIVES OF INDIA

CHAYGALMARRI TRACT.

Sirvel Taluk.

Government Villages.

Map No.		Map No.		Map No.	
51	Ahobalam.	69	Gorigenur.	56	Padakanla.
49	Alamur.	79	Gotlur.	64	Palasagaram.
60	Allagadda.	77	Kalugotlapalle.	62	Patakandukur.
52	Bachepalle.	63	Kotakandukur.	72	Peddabhojanam.
78	Brahmanapalle.	53	Kristnapuram.	85	Pedda Vangali.
66	Chinnabhojanam.	75	Maddur.	73	Ramapalli.
84	Chinna Vangali.	50	Mittapalle.	70	Settivid.
65	Chintakommadinne.	47	Muttalur.	71	Todedlapalli.
	Chintalacheruvu.	67	Mutyalapad.	55	Vobalampalli.
76	Chaygalmarri.	48	Narasapuram.	54	Yadavada.
68	Dantlavanipenta.	74	Nelampad.		

SAGILER TRACT.

Cumbum Taluk.

Government Villages.

107	Allinagaram.	66	Kanchipalli.	82	Narava.
63	Ambavaram.	100	Komaravol.	81	Podillakondapalli.
92	Brahmanapalli.	91	Kommanur.	101	Pullareddipalli.
67	Chattireddipalli.	109	Kondapeta.	80	Razupalem.
102	Chintalapalli.	83	Kongalavid.	106	Reddicherla.
88	Gadikota.	86	Kottakota.	87	Sanjivaravupeta.
69	Giddalur.	65	Kristnamsettipalli.	104	Sarvireddipalli.
90	Guntapalla.	85	Mundlapad.	64	Uppalapad.
78	Idamakallu.	76	Nallagunta.	89	Uyyalavada.

Agraharams.

98	Badisepalli.	93	Lingareddipalli.	99	Suravarapalli.
95	Bedusupalli.	97	Mettupalli.	75	Tambalapalli.
105	Brahmanpalli.	68	Modampalli.	73	Tripurapuram.
77	Gudurumorrayyapalli.	84	Narasimhunipalli.	79	Vennupalli.
94	Kristnampalli.	96	Ramavarapalli.		

GUNDLAKAMMA TRACT.

Cumbum Taluk.

Government Villages.

37	Akuvid.	60	Gudimitta.	40	Pullalacheruvu.
42	Anumanapalli.	41	Jollavid.	62	Racherla.
3	Ardavid.	10	Kakarla.	44	Somidevipalli.
32	Bogol.	33	Lingapuram.	36	Turumella.
1	Bollupalli.	6	Maddulamadaka.		Velagalapaya.
39	Chinaganipalli.		Magutur.	72	Yedavalli.
74	Daddavada.	43	Palakavid.	35	Yerrabalem.
5	Donakonda.	2	Papinenipalli.		
	Gannepalli.	8	Peddakandukur.		

Agraharams.

47	Anantapalli.	4	Erraguntla.	9	Pottibasavayapalli.
7	Ayyavaripalli.	34	Lingapuram.	70	Timmapuram.
71	Bhupanagunta.	46	Madhavapuram.	38	Venuturlapad.
61	Dadanaguravayapalli.	59	Nagireddipalli.		

BASINEPALLE TRACT.

Cumbum Taluk.

Government Villages.

53	Basinepalle.	108	Kajipuram.	51	Pitikayagundla.
54	Galijerugundla.	103	Konapalli.	50	Pusalapad.
52	Janapalacheruvu.	56	Madanapullalacheruvu.	20	Salakalavidu.

NATIONAL ARCHIVES OF INDIA

Agraharams.

Map No.		Map No.		Map No.	
18	Chinna Vobanayanipalli.	57	Mokshagundam.	19	Polavaram.
21	Datarakristnapuram.	26	Nekunambada.	16	Retlapalli.
45	Jangambhatlakristnapuram	55	Pachana Venkatapuram.	58	Taticherla.
49	Madutla.	17	Pedda Vobanayanipalli.		

CUMBUM TRACT.

Cumbum Taluk.

Government Villages.

15	Avarangabad.		Daraga.	30	Porumamillapalli.
28	Bestavarapupeta.	23	Hazaratgudem.	22	Ravipad.
48	Chinna Cumbum.	24	Kagitalagudem.	29	Somavarapupeta.
25	Chintapalem.	14	Nadimpalli.		
31	Cumbum.	27	Papayapalli.		

VEMULAKOTA TRACT.

Cumbum Taluk.

Government Villages.

13	Kandulapuram.	12	Lanjakota.

Agraharam.

11 Jangamkuntla.

Markapur Taluk.

Government Villages.

95	Bhupatipalli.	75	Jammunapalli.	84	Pedda Nagulavaram.
96	Bondalapad.	74	Kolabhimunipad.	93	Tippayapalem.
91	Chintakunta.	83	Nikarampalli.	90	Vemulakota.
82	Devarazughattu.	80	Pedda Aravid.		

Agraharams.

92	Badekhanupet.	94	Malyavantunipad.	88	Yellapuram.
81	Kottapalli.	86	Narasimhapuram.		
87	Kristnapuram.	89	Sivaramapuram.		

DUPAD TRACT.

Markapur Taluk.

Government Villages.

50	Amanigudipad.	65	Iyinamukkula.	55	Pedda Yachavaram.
79	Baddivid.	77	Kalanutula.	11	Pullalacheruvu.
60	Boyidagumpula.	36	Kambhampad.	12	Rachakonda.
41	Boyilapalli.	20	Kankanalapalli.	59	Rajampalli.
15	Chapalamadugu.	78	Katakanipalli.	23	Ramasamudram.
67	Cherlopalli.	16	Kavulakuntla.	22-2	Razupalem.
62	Chinna Doranala.	46	Kolukula.	61	Sanikavaram.
64	Doranala.	14	Komaravol.	2	Setakod.
34	Dupad.	28	Lellapalli.	76	Sunkesula.
30-2	Duvvali.	53	Mallampet.	52	Tangiralapalli.
54	Gajjalakonda.	85	Markapuram.	51	Tokapalli.
17	Ganapavaram.	3	Marrivemula.	21	Tripurantakam.
57	Gobbur.	18	Medapi.	45	Venkatadripalem.
26	Gollavidipi.	43	Millampalli.	30-1	Viswanadhapuram.
72	Gottubadia.	19	Miriampalli.	66	Yadavalli.
38	Gurijepalli.	22-1	Mittapalem.	13	Yandrapalli.
49	Gurrapusala.	4	Mutukula.	42	Yerrakondapalem.
56	Idupur.	68	Nallagunta.		
10	Isukatripuravaram.	63	Pedda Bommalapuram.		

Agraharams.

73	Akkacheruvu.	31	Gollepalli.	29	Narasingapuram.
35	Ambapuram.	47	Kataruvanipalli.	58	Pragallapad.
9	Annasamudram.	27	Lalapuram.	24	Ramachendrapuram.
7	Ayyagaripalli.	48	Lingavanipalli.	44	Rayavaram.
39	Boyilapalli.	25	Madhavunipalli.	32	Timmanapalem.
1	Chantapalli.	33	Maktumpuram.	37	Vobalakkapalli.
8	Chautapacherla.	6	Manepalli.		
40	Ganganapalem.	5	Narasapuram.		

NATIONAL ARCHIVES OF INDIA

APPENDIX VIII.—Statement showing the area under irrigation and the nature of the supply of irrigation water in the different tracts of the Kurnool district.

—	KURNOOL TRACT.	BELLAGAL TRACT.			HOSUR TRACT.	PIAPALLE TRACT.			SOUTH ERRAMALA TRACT.			NORTH ERRAMALA TRACT.			NANNUR TRACT.				NANDIKOTKUR TRACT.		
	Rámallakót taluk.	Pattikonda taluk.	Rámallakót taluk.	Total.	Pattikonda taluk.	Pattikonda taluk.	Rámallakót taluk.	Total.	Pattikonda taluk.	Koilkuntla taluk.	Total.	Rámallakót taluk.	Nandyál taluk.	Total.	Rámallakót taluk.	Nandikótkur taluk.	Nandyál taluk.	Total.	Nandikótkur taluk.	Nandyál taluk.	Total.
Number of works	10	51	21	72	12	109	28	137	29	18	47	9	20	29	4	7	3	14	7	4	11
Tanks	6	33	13	46	5	64	20	84	17	5	22	3	9	12	1	2	1	4	4	1	5
Channels. { River	1	18	8	26	7	45	7	52	12	11	23	2	9	11	1	1	2	4	2	2	4
Channels. { Spring	3	..	..	..	..	..	1	1	..	2	2	4	2	6	2	4	..	6	1	1	2
Anicuts	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Irrigable area (1) Acres.	500	1,248	1,036	2,284	204	4,721	1,985	6,706	901	903	1,804	450	1,166	1,616	120	308	16	444	331	97	428
Area occupied (2) do.	460	942	643	1,585	138	3,390	1,231	4,621	823	683	1,506	420	1,056	1,476	112	301	10	423	279	94	373
Area effectively irrigated—																					
First crop (3) Acres.	416	771	537	1,308	94	2,433	1,036	3,469	762	658	1,420	357	1,049	1,406	105	296	10	411	274	94	368
Second crop (4) do.	159	203	126	329	4	259	256	515	169	278	447	138	516	654	33	82	..	115	39	40	79
Percentage of 2 on 1 ..	92	75	62	69	68	72	62	69	91	75	83	93	90	91	93	98	62	95	84	97	87
Do. of 3 on 2 ..	90	82	84	83	68	72	84	75	93	96	94	85	99	95	94	98	100	97	98	100	99
Do. of 4 on 2 ..	35	22	20	21	3	8	21	11	21	41	30	33	49	44	29	27	..	27	14	43	21
Gross demand .. (5) Rs.	2,181	4,646	2,499	7,145	729	13,392	4,578	17,970	3,042	2,990	6,032	2,154	5,740	7,894	537	1,498	26	2,061	1,646	531	2,177
Remissions .. .. (6) ,,	234	1,065	563	1,628	372	5,663	1,066	6,729	498	415	913	295	69	364	38	40	..	78	57	1	58
Percentage of 6 on 5	11	23	23	23	51	42	23	37	16	14	15	14	1	5	7	3	..	4	3	0·2	3
Revenue per acre .. Rs.	5	6	4	5	8	6	4	5	4	4	4	6	5	6	5	5	3	5	6	6	6

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APPENDIX VIII.—Statement showing the area under irrigation and the nature of the supply of irrigation water in the different tracts of the Kurnool district—*cont.*

—	ATMAKUR TRACT.	NALLAMALA TRACT.			KUNDER TRACT.				OWK TRACT.	CHAYGAL-MARRI TRACT.	SAGILER TRACT.	GUNDLA-KAMMA TRACT.	BASINE-PALLE TRACT.	CUMBUM TRACT.	VEMULAKOTA TRACT.			DUPAD TRACT.
	Nandikótkur taluk.	Nandyál taluk.	Sirvél taluk.	Total.	Nandyál taluk.	Koilkuntla taluk.	Sirvél taluk.	Total.	Koilkuntla taluk.	Sirvél taluk.	Cumbum taluk.	Cumbum taluk.	Cumbum taluk.	Cumbum taluk.	Cumbum taluk.	Márkápur taluk.	Total.	Márkápur taluk.
Number of works	26	28	34	62	19	22	3	44	29	14	60	47	21	1	1	14	15	110
Tanks	25	20	25	45	14	16	3	33	8	9	46	36	19	..	..	11	11	90
Channels { River	1	5	7	12	3	5	..	8	14	2	14	11	2	..	..	3	3	20
Channels { Spring	..	3	2	5	2	1	..	3	7	3	..	..	..	..	..	..	..	..
Anicuts	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..
Irrigable area (1) acres	5,617	3,207	4,303	7,510	2,773	1,745	187	4,705	2,781	1,374	3,456	3,531	627	4,794	733	1,376	2,109	8,245
Area occupied (2) do.	4,631	2,852	3,881	6,733	2,666	1,632	115	4,413	2,473	1,146	2,995	3,180	564	4,670	688	1,108	1,796	6,638
Area effectively irrigated—																		
First crop (3) acres	4,497	2,690	3,881	6,571	2,628	1,523	115	4,266	2,149	1,144	2,989	3,168	562	4,670	688	1,081	1,769	5,964
Second crop (4) do.	13	290	77	367	1,491	913	38	2,442	1,109	264	1,206	602	209	3,500	281	15	296	160
Percentage of 2 on 1	82	89	90	90	96	94	61	94	89	83	87	90	90	97	94	80	85	81
Do. of 3 on 2	97	94	100	98	99	93	100	97	87	100	100	100	100	100	100	98	98	90
Do. of 4 on 2	0·3	10	2	5	56	56	33	55	45	23	40	19	37	75	41	1	16	2
Gross demand .. (5) rs.	14,828	10,500	12,922	23,422	15,954	11,119	574	27,647	17,158	4,531	11,834	13,523	1,883	39,177	3,987	4,924	8,911	27,575
Remissions .. (6) do.	726	684	20	704	352	1,286	..	1,638	2,718	10	353	116	53	258	1	126	127	4,940
Percentage of 6 on 5	5	7	0·2	3	2	12	..	6	16	0·2	3	1	3	1	..	3	1	18
Revenue per acre .. rs.	3	4	3	4	6	7	5	6	8	4	4	4	3	8	6	4	5	5

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Appendix IX.—Statement showing details of well and doruvu irrigation in Kurnool district.

Tract.	Kurnool.	Bellagal.	Hosúr.	Piápalle.	South Erramala.	North Erramala.	Nannur.	Nandikótkur.	Atmakúr.
Number of villages, total	47	66	10	63	17	34	22	75	19
Do. with no wells	18	7	3	4	..	17	8	4	9
Wells—total number of	86	596	114	726	194	122	86	576	92
do. abandoned or occasionally used	41	155	15	173	33	35	21	256	47
do. in regular use	45	441	99	553	161	87	65	320	45
Sectional area in square feet	753	916	1,012	781	623	583	540	497	503
Depth in feet	22	21	25	23	24	22	22	22	22
Depth of water in feet	10	13	12	13	14	11	12	13	16
Number of lifts worked	79	612	118	773	169	139	82	302	40
Area irrigated, acres	136	1,547	317	1,424	551	183	260	507	96
Area irrigated per lift, acres	1·72	2·53	2·69	1·84	3·26	1·32	3·17	1·68	2·4
Supply in, whether good and persistent or otherwise.	Water bad, often brackish, and supply not at all strong; in some villages fails entirely.		Poor supply of inferior water.	Scanty and not permanent.	Good in the valleys; doubtful elsewhere.	In a few villages good and persistent.	Good in one or two villages, generally poor.	Indifferent generally but good in a few villages near the Bhavanassi and Vakiler.	
Prospect for further well-sinking	Bad.	Poor.	Bad.	Poor	Fair in parts.	Fair in parts where there are already wells; bad elsewhere.	Poor.	Bad.	Fair in a few places.
Doruvu, number of	66	107	..	14	..	37	..	32	..
Lifts worked under	74	125	..	15	..	32	..	37	..
Depth of lift	14	18	..	18	..	9	..	20	..
Area irrigated in acres	301	333	..	31	..	100	..	128	..
Area irrigated per lift, acres	4·07	2·66	..	2·07	..	3·12	..	3·46	..
Prospect of increasing	Limited.	Limited.	None.	Very little.	Small.	Small.	Nil.	Small.	Little or none.
Total number of lifts on well and doruvu	153	737	118	788	169	171	82	339	40
Total area irrigated by lifts	437	1,880	317	1,455	551	283	260	635	96
Area irrigated per lift, acres	2·86	2·55	2·69	1·85	3·26	1·65	3·17	1·87	2·4
Time of year when worked	Wells are worked in these tracts as required from August to November and from February to June.					August to November and February to April and sometimes to June.		Sept. to June ..	Nov. to June.

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APPENDIX IX.—Statement showing details of well and doruvu irrigation in Kurnool district—*cont.*

Tract.	Nallamala.	Kunder.	Owk.	Chaygalmarri.	Sagilér.	Gundlakamma.	Basinepalle.	Cumbum.	Vemulakota.	Dupad.
Number of villages, total	42	137	18	32	41	36	20	13	21	77
Do. with no wells	13	27	2	1	2	8	3	3	3	1
Wells—total number of	246	622	231	410	1,052	943	436	70	83	1,762
do. abandoned or occasionally used.	157	186	3	43	690	405	200	64	18	55
do. in regular use ..	89	436	228	367	362	538	236	6	65	1,707
Sectional area in square feet ..	435	473	520	234	1,263	1,320	1,208	1,095	1,140	960
Depth in feet	23	26	28	25	25	28	30	22	28	34
Depth of water in feet	8	11	18	12	14	15	16	12	19	15
Number of lifts worked	93	436	232	367	361	538	236	6	76	1,765
Area irrigated, acres	203	1,868	1,083	1,776	524	1,849	959	12	359	9,182
Area irrigated per lift, acres ..	2·18	4·28	4·67	4·84	1·45	3·44	4·06	2·0	4·72	5·20
Supply in, whether good and persistent or otherwise.	Nearly all irrigation is in one village, where supply good and permanent.	Fair and persistent in a few places.	Good on the whole, and very good in a few places.	Good and persistent generally.	Not so good as elsewhere in the Cumbum taluk.	Generally the supply in these tracts is good and fairly permanent.				
Prospect for further well-sinking ..	Generally poor, but fair in a few places.	Bad and costly	Fair in places.	Fair in places.	Fair, but the number of wells out of regular use in these tracts is large.			Not needed ..	Poor.	Fair.
Doruvu, number of	..	11	19	..	62	163	31	16	56	231
Lifts worked under	..	12	19	..	16	111	21	6	72	245
Depth of lift	..	18	17	..	16	15	21	8	29	30
Area irrigated, acres	..	59	86	..	53	397	97	10	279	1,348
Area irrigated per lift, acres	..	4·92	4·53	..	3·31	3·58	4·62	1·67	3·87	5·50
Prospect of increasing	Little or none.	Possible, but not probable	Small.	Little.	Fair, but the number already in existence but out of use is great.					Very considerable in places.
Total number of lifts on wells and doruvu ..	93	448	251	367	377	649	257	12	148	2,010
Total area irrigated by lifts, acres	203	1,927	1,169	1,776	577	2,246	1,056	22	638	10,530
Area irrigated per lift, acres	2·18	4·30	4·66	4·84	1·53	3·46	4·11	1·83	4·31	5·24
Time of year when worked	November to June.		September to June.		December to March.			Aug. and Sept.	July and August and December to March.	

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Appendix X.—Statement showing the distribution of sowings during the year in the different tracts of the Kurnool District.

Area sown during	Kurnool Tract.		Bellagal Tract.				Hosur Tract.		Piapalle Tract.				South Erramala Tract.			
	Rámallakót Taluk.		Pattikonda Taluk.	Rámallakót Taluk.	Total.		Pattikonda Taluk.		Pattikonda Taluk.	Rámallakót Taluk.	Total.		Pattikonda Taluk.	Koilkuntla Taluk.	Total.	
	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Percentage.
	Acs.		Acs.	Acs.	Acs.		Acs.		Acs.	Acs.	Acs.		Acs.	Acs.	Acs.	
July	28,436	23	73,158	25,501	98,659	49	11,230	21	83,486	22,911	106,397	72	18,506	3,521	22,027	57
August	22,277	18	24,744	13,839	38,583	19	5,488	10	12,749	6,206	18,955	13	3,592	4,461	8,053	21
September	14,767	12	10,655	8,210	18,865	10	12,043	23	5,933	2,222	8,155	6	1,495	3,347	4,842	12
October	29,663	24	5,975	10,595	16,570	8	12,306	23	5,612	2,161	7,773	5	1,005	796	1,801	5
November	25,229	21	10,315	10,632	20,947	11	7,140	14	1,797	959	2,756	2	458	1,145	1,603	4
December	1,640	1	840	3,271	4,111	2	3,935	8	1,124	398	1,522	1	167	195	362	1
January to June	744	1	361	1,471	1,832	1	544	1	939	254	1,193	1	72	84	156	..
Total area referred to ..	122,756	100	126,048	73,519	199,567	100	52,686	100	111,640	35,111	146,751	100	25,295	13,549	38,844	100

Area sown during	North Erramala Tract.				Nannur Tract.					Nandikotkur Tract.			
	Rámallakót Taluk.	Nandyál Taluk.	Total.		Rámallakót Taluk.	Nandikótkur Taluk.	Nandyál Taluk.	Total.		Nandikótkur Taluk.	Nandyál Taluk.	Total.	
	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Percentage.
	Acs.	Acs.	Acs.		Acs.	Acs.	Acs.	Acs.		Acs.	Acs.	Acs.	
July	23,373	13,737	37,110	46	3,889	7,018	2,280	13,187	25	32,219	4,051	36,270	21
August	5,405	10,118	15,523	19	1,866	4,679	1,234	7,779	15	40,760	5,343	46,103	26
September	2,243	7,291	9,534	12	3,123	4,153	1,648	8,924	17	18,062	1,925	19,987	12
October	2,644	10,754	13,398	16	3,872	9,875	3,255	17,002	32	45,872	3,584	49,456	28
November	1,319	3,207	4,526	6	701	3,422	438	4,561	9	20,953	506	21,459	12
December	149	681	830	1	322	42	9	373	1	1,593	665	2,258	1
January to June	147	67	214	..	223	121	..	344	1	252	29	281	..
Total area referred to ..	35,280	45,855	81,135	100	13,996	29,310	8,864	52,170	100	159,711	16,103	175,814	100

APPENDIX X.—Statement showing the distribution of sowings during the year in the different tracts of the Kurnool District—*cont.*

Area sown during	Atmakur Tract.		Nallamala Tract.				Kundér Tract.					Owk Tract.		Chaygalmarri Tract.	
	Nandikótkur Taluk.		Nandyál Taluk.	Sirvel Taluk.	Total.		Nandyál Taluk.	Koilkuntla Taluk.	Sirvel Taluk.	Total.		Koilkuntla Taluk.		Sirvel Taluk.	
	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.
	ACS.		ACS.	ACS.	ACS.		ACS.	ACS.	ACS.	ACS.		ACS.		ACS.	
July	8,592	21	5,776	10,046	15,822	21	10,267	12,790	8,600	31,657	9	7,529	19	15,618	27
August	11,668	29	8,983	9,691	18,674	25	13,746	9,468	4,529	27,743	8	11,627	30	8,409	15
September	4,259	10	7,969	7,416	15,385	21	27,100	91,334	29,159	147,593	44	16,512	40	19,324	33
October	9,871	24	7,594	9,775	17,369	23	43,307	42,006	20,284	105,597	32	1,758	5	10,652	18
November	6,075	15	3,053	2,589	5,642	8	11,515	6,499	1,904	19,918	6	1,402	3	2,903	5
December	557	1	833	703	1,536	2	871	1,370	175	2,416	1	299	1	1,073	2
January to June	120	..	129	127	256	..	209	195	80	484	..	827	2	191	..
Total area referred to ..	41,142	100	34,337	40,347	74,684	100	107,015	163,662	64,731	335,408	100	38,954	100	58,170	100

Area sown during	Sagiler Tract.		Gundlakamma Tract.		Basinepalle Tract.		Cumbum Tract.		Vémulakota Tract.				Dupad Tract.	
	Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.	Márkápur Taluk.	Total.		Márkápur Taluk.	
	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Percentage.
	ACS.		ACS.		ACS.		ACS.		ACS.	ACS.	ACS.		ACS.	
July	15,726	34	22,754	42	3,174	18	2,229	28	1,266	3,239	4,505	18	22,454	22
August	14,091	30	16,034	29	9,735	55	2,910	36	1,490	8,009	9,499	39	34,539	35
September	4,188	9	5,484	10	2,404	13	1,144	14	433	3,011	3,444	14	13,171	13
October	3,781	8	3,638	7	1,167	7	550	7	146	1,072	1,218	5	10,489	10
November	3,659	8	2,334	4	685	4	344	4	506	3,031	3,537	14	11,560	12
December	2,700	6	2,041	4	363	2	498	6	336	1,237	1,573	6	4,769	5
January to June	2,232	5	2,014	4	276	1	402	5	15	872	887	4	2,904	3
Total area referred to ..	46,377	100	54,299	100	17,804	100	8,077	100	4,192	20,471	24,663	100	99,886	100

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Appendix XI.—Statement showing the crops raised in the different tracts in the Kurnool District.

Crops.	Kurnool Tract.		Bellagal Tract.				Hosur Tract.		Piapalle Tract.				South Erramala Tract.	
	Rámallakót Taluk.		Pattikonda Taluk.	Rámallakót Taluk.	Total.		Pattikonda Taluk.		Pattikonda Taluk.	Rámallakót Taluk.	Total.		Pattikonda Taluk.	Koilkuntla Taluk.
	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Area
Cereals.	acs.		acs.	acs.	acs.		acs.		acs.	acs.	acs.		acs.	acs.
Wheat	303	0·3	1,373	610	1,983	1·0	68	0·1	16	13	29	..	..	10
Paddy, irrigated	1,619	1·3	1,162	831	1,993	1·0	50	0·1	2,209	723	2,932	2·1	308	571
Do. dry	85	..	223	95	318	0·2	..	..	668	64	732	0·5	456	52
Jonna, early	14,691	11·7	42,231	10,244	52,475	26·2	10,365	19·9	50,299	14,453	64,752	45·7	13,999	5,009
Do. late	43,484	34·7	9,998	21,425	31,423	15·7	17,840	34·3	849	303	1,152	0·8	..	..
Korra	21,605	17·3	29,128	14,015	43,143	21·6	10,183	19·6	11,635	4,119	15,754	11·1	4,822	5,014
Sazza	2,692	2·2	10,054	6,479	16,533	8·3	272	0·5	4,989	475	5,464	3·9	265	42
Arika	1,142	0·9	3,608	1,124	4,732	2·4	1	..	1,709	1,617	3,326	2·3	74	339
Ragi	59	..	80	66	146	..	7	..	132	36	168	0·1	44	81
Variga	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	34	..	95	11	106	..	..	..	..	8	..	..	..	..
										19	27	..	3	..
Total, Cereals	85,714	68·4	97,952	54,900	152,852	76·4	38,786	74·5	72,514	21,822	94,336	66·5	19,971	11,118
Pulses.														
Horse gram	526	0·4	2,022	885	2,907	1·5	616	1·2	6,990	1,299	8,289	5·9	1,583	726
Bengal do.	1,514	1·2	1,409	535	1,944	1·0	212	0·4	261	91	352	0·3	79	..
Red gram	800	0·7	1,711	1,094	2,805	1·4	669	1·3	3,410	1,243	4,653	3·3	600	..
Green gram	390	0·3	1,231	475	1,706	0·9	576	1·1	1,713	326	2,039	1·4	132	435
Others	42	..	1,203	354	1,557	0·8	210	0·4	703	204	907	0·6	90	..
Total, Pulses	3,272	2·6	7,576	3,343	10,919	5·6	2,283	4·4	13,077	3,163	16,240	11·5	2,484	1,161
Industrial Crops.														
Sugars	12	..	19	..	19	..	..	..	8	2	10	..	..	..
Oil-seeds—														
Linseed	2,773	2·2	146	522	668	0·8	..	..	5	..	5	..	..	..
Gingelly	245	0·2	608	355	963		116	0·2	514	322	836	0·6	109	..
Castor	3,590	2·9	6,052	4,919	10,971	5·5	1,234	2·4	18,335	6,780	25,115	17·7	1,865	665
Others	4	..	28	..	28	..	..	..	2	..	2	..	12	..
Indigo	3,266	2·6	304	1,339	1,643	0·8	573	1·1	198	450	648	0·5	469	164
Cotton	24,173	19·3	11,518	7,658	19,176	9·6	8,853	17·0	1,997	1,474	3,471	2·5	750	675
Gogu	..	..	22	..	22	..	..	..	..	..	..	..	..	..
Tobacco	667	0·5	102	84	186	..	21	..	127	106	233	0·2	192	1
Total, Industrial Crops	34,730	27·7	18,799	14,877	33,676	16·7	10,797	20·7	21,186	9,134	30,320	21·5	3,397	1,505
Others.														
Omum	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Betel leaves	14	1·0	..	..	..	..	10	..	11	9	20	..	29	29
Chillies	1,211		2,045	427	2,472	1·2	78	0·2	325	100	425	0·3	52	23
Other vegetables	78		37	17	54		1	..	15	1	16		4	2
Fruit trees	319	0·3	45	43	88	0·1	92	0·2	197	59	256	0·2	45	2
All others	51		67	3	70		14		33	4	37		63	..
Total, Others	1,673	1·3	2,194	490	2,684	1·3	195	0·4	581	173	754	0·5	193	56
Total area referred to	125,389	100	126,521	78,610	200,131	100	52,061	100	107,358	34,292	141,650	100	26,045	13,840

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APPENDIX XI.—Statement showing the crops raised in the different tracts in the Kurnool District—*cont.*

Crops.	South Erramala Tract—*cont.*		North Erramala Tract.				Nannur Tract.					Nandikotkur Tract.			
	Total.		Rámallakót Taluk.	Nandyál Taluk.	Total.		Rámallakót Taluk.	Nandikótkur Taluk.	Nandyál Taluk.	Total.		Nandikótkur Taluk.	Nandyál Taluk.	Total.	
	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Area.	Percentage.	Area.	Area.	Area.	Percentage.
Cereals.	ACS.		ACS.	ACS.	ACS.		ACS.	ACS.	ACS.	ACS.		ACS.	ACS.	ACS.	
Wheat	10	..	57	73	130	0·2	19	328	14	361	0·7	381	74	455	0·2
Paddy irrigated ..	879	2·2	214	675	889	1·1	90	433	29	552	1·1	1,857	221	2,078	1·1
Do. dry	508	1·3	103	108	211	0·3	9	41	7	57	0·1	665	38	703	0·4
Jonna early	19,008	47·7	14,643	14,633	29,276	36·6	2,550	4,189	2,011	8,750	16·8	21,115	3,094	24,209	12·5
Do. late	..	..	737	5,341	6,078	7·6	2,992	9,288	1,863	14,143	27·2	48,827	2,815	51,642	26·7
Korra	9,836	24·7	7,204	9,883	17,087	21·3	2,037	4,063	1,290	7,390	14·2	33,618	4,350	37,968	19·6
Sazza	307	0·8	92	170	262	0·3	27	34	6	67	0·1	124	7	131	..
Arika	413	1·0	940	994	1,934	2·4	233	574	104	911	1·8	13,178	862	14,040	7·3
Ragi	125	0·3	55	100	155	0·2	..	3	1	4	..	69	23	92	..
Variga	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Others	3	..	218	70	288	0·4	3	..	..	3	..	22	..	22	..
Total, Cereals ..	31,089	78·0	24,263	32,047	56,310	70·4	7,960	18,953	5,325	32,238	62·0	119,856	11,484	131,340	67·8
Pulses.															
Horse gram	2,018	5·0	1,612	1,675	3,287	4·1	30	212	49	291	0·6	7,353	438	7,791	4·0
Bengal do.	805	2·0	1,040	841	1,881	2·3	368	1,069	234	1,671	3·2	2,085	176	2,261	1·2
Red gram	600	1·5	1,015	68	1,083	1·4	609	776	42	1,427	2·7	2,044	..	2,044	1·1
Green gram	132	0·3	115	24	139	0·2	104	641	15	760	1·5	1,675	..	1,675	0·9
Others	90	0·3	7	7	14	..	1	..	..	1	..	68	7	75	..
Total, Pulses ..	3,645	9·1	3,789	2,615	6,404	8·0	1,112	2,698	340	4,150	8·0	13,225	621	13,846	7·2
Industrial Crops.															
Sugars	..	..	20	120	140	0·2	3	..	..	3	..	..	..	..	..
Oil-seeds—															
Linseed	..	..	..	12	12	..	59	419	115	593	1·1	809	90	899	0·8
Gingelly	109	0·3	38	11	49	..	3	31	15	49	0·1	484	139	623	
Castor	2,530	6·3	4,163	4,352	8,515	10·7	486	772	288	1,546	3·0	7,267	708	7,975	4·1
Others	12	..	1	..	1	..	24	..	..	24	..	5	..	5	..
Indigo	633	1·6	372	757	1,129	1·4	341	802	262	1,405	2·7	15,021	1,232	16,253	8·4
Cotton	1,425	3·6	1,435	3,667	5,102	6·4	2,463	5,162	2,239	9,864	19·0	15,607	941	16,548	8·6
Gogu	..	..	11	..	11	..	..	32	..	32	0·1	318	..	318	0·2
Tobacco	193	0·5	1,002	352	1,354	1·7	477	424	128	1,029	2·0	844	760	1,604	0·8
Total, Industrial Crops.	4,902	12·3	7,042	9,271	16,313	20·4	3,856	7,642	3,047	14,545	28·0	40,355	3,870	44,225	22·9
Others.															
Onum	..	..	..	..	..	..	5	..	..	5	..	1,598	47	1,645	0·9
Betel leaves	58	0·1	29	31	60	0·1	2	..	..	2	..	46	..	46	..
Chillies	75	0·2	390	171	561	0·7	160	590	122	872	1·7	1,855	180	2,035	1·0
Other vegetables ..	6		4	2	6	..	12	50	2	64		71	9	80	
Fruit trees	47	0·3	8	125	133	0·2	43	49	..	92	0·3	45	105	150	0·2
All others	63		39	155	194	0·2	14	6	16	36		125	52	177	
Total, Others ..	249	0·6	470	484	954	1·2	236	695	140	1,071	2·0	3,740	393	4,133	2·1
Total area referred to ..	39,885	100	35,564	44,417	79,981	100	13,164	29,988	8,852	52,004	100	177 176	16,368	193,544	100

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Appendix XI.—Statement showing the crops raised in the Kurnool District—*cont.*

Crops.	Atmakur Tract.		Nallamala Tract.				Kunder Tract.					Owk Tract.		Chaygalmarri Tract.	
	Nandikótkur Taluk.		Nandyál Taluk.	Sirvel Taluk.	Total.		Nandyál Taluk.	Koilkuntla Taluk.	Sirvel Taluk.	Total.		Koilkuntla Taluk.		Sirvel Taluk.	
	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Area	Area.	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.
Cereals.	acs.		acs.	acs.	acs.		acs.	acs.	acs.	acs.		acs.		acs.	
Wheat	16	..	..	4	4	..	73	262	21	356	0·1	246	0·6	14	..
Paddy, irrigated ..	4,073	9·7	2,975	3,713	6,688	8·8	2,681	959	152	3,792	1·1	1,764	4·4	614	1·0
Do. dry	425	1·0	2,524	1,148	3,672	4·9	479	69	1,794	2,342	0·7	23	..	1,224	2·1
Jonna, early	2,972	7·1	301	17	318	0·4	926	110	..	1,036	0·3	3,096	7·7	..	..
Do. late	9,840	23·5	4,867	6,055	10,922	14·5	45,997	66,991	26,923	139,911	41·1	5,093	12·7	13,102	22·5
Korra	4,926	11·8	3,399	5,118	8,517	11·3	6,952	5,262	1,781	13,995	4·1	10,515	26·3	8,310	14·3
Sazza	112	0·3	144	284	428	0·6	1	40	1	42	..	145	0·4	175	0·3
Arika	9,056	21·7	10,940	12,840	23,780	31·5	4,860	6,080	5,898	16,838	4·9	7,341	18·4	14,322	24·6
Ragi	78	0·2	166	411	577	0·7	129	565	64	758	0·2	335	0·8	711	1·2
Variga	..	..	1	10	11	..	1	45	23	69	0·1	..	..	48	0·1
Others	38	0·1	10	9	19	..	43	..	2	45		7	..	6	
Total, Cereals ..	31,536	75·4	25,327	29,609	54,936	72·7	62,142	80,383	36,659	179,184	52·6	28,565	71·3	38,526	66·1
Pulses.															
Horse gram	5,465	13·1	4,164	3,371	7,535	10·0	1,145	762	836	2,743	0·8	619	1·5	4,013	7·0
Bengal do.	338	0·8	30	62	92	0·1	1,655	1,814	141	3,010	0·9	990	2·5	33	..
Red gram	430	1·0	..	144	144	0·2	3	13	92	108		77	0·2	333	0·6
Green gram	197	0·5	..	14	14	0·1	112	21	245	378	0·2	133	0·3	288	0·5
Others	13	..	23	11	34		91	53	8	152		4	..	23	..
Total, Pulses ..	6,443	15·4	4,217	3,602	7,819	10·4	2,406	2,663	1,322	6,391	1·9	1,823	4·5	4,690	8·1
Industrial Crops.															
Sugars	..	..	44	..	44	0·1	38	2	..	40	..	9	0·4	2	..
Oil-seeds—															
Linseed	30	0·1	13	12	25		856	1,222	130	2,208	0·6	56		17	0·1
Gingelly	77	0·2	..	12	12		276	3	15	294	0·1	84		67	
Castor	370	0·9	197	57	254	0·3	94	430	73	597	0·2	1,219	3·0	101	0·2
Others	..	..	..	..	..	..	1	18	3	22	..	46	0·1	..	..
Indigo	1,174	2·8	1,099	1,118	2,217	3·0	14,666	30,175	5,028	49,869	14·6	1,068	2·7	4,755	8·2
Cotton	1,070	2·6	4,042	4,377	8,419	11·1	27,979	50,289	20,892	99,160	29·1	6,838	17·1	9,570	16·4
Gogu	11	..	31	5	36	0·1	22	13	33	68	0·1	13	..	44	0·1
Tobacco	6	..	1	22	23		75	92	1	168		..	..	3	
Total, Industrial Crops.	2,738	6·6	5,427	5,603	11,030	14·6	44,007	82,244	26,175	152,426	44·7	9,333	23·3	14,559	25·0
Others.															
Onum	936	2·2	1	2	3	0·1	63	21	..	84	..	..	..	..	
Betel leaves	5	..	8	28	36		38	39	..	77	..	32	0·1	23	0·3
Chillies	133	0·3	181	882	1,063	1·4	358	450	751	1,559	0·5	158	0·4	155	
Other vegetables ..	5		5	5	10	..	9	84	4	97		90	0·2	109	0·2
Fruit trees	23	0·1	97	427	524	0·7	299	274	68	641	0·3	70	0·2	131	0·3
All others	3		86	2	88	0·1	274	74	..	348		6	..	12	
Total, Others ..	1,105	2·6	378	1,346	1,724	2·3	1,041	942	823	2,806	0·8	356	0·9	430	0·8
Total area referred to ..	41,822	100	35,349	40,160	75,509	100	109,596	166,232	64,979	340,807	100	40,077	100	58,205	100

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APPENDIX XI.—Statement showing the crops raised in the different tracts in the Kurnool District—*cont.*

Crops.	Sagiler Tract.		Gundlakamma Tract.		Basinepalle Tract.		Cumbum Tract.		Vemulakota Tract.				Dupad Tract.	
	Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.		Cumbum Taluk.	Márkápur Taluk.	Total.		Márkápur Taluk.	
	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.	Area.	Percentage.	Area.	Area.	Area.	Percentage.	Area.	Percentage.
Cereals.	ACS.		ACS.		ACS.		ACS.		ACS.	ACS.	ACS.		ACS.	
Wheat	391	0·8	8	..	..	..	..	..	1	..	1	..	..	..
Paddy, irrigated	2,395	4·6	2,454	4·0	435	1·9	2,958	37·2	224	592	816	3·2	4,807	5·1
Do. dry	74	0·1	22	..	29	0·1	..	..	..	..	..	..	30	..
Jonna, early	13,904	26·7	17,688	28·6	1,582	6·7	334	4·2	290	460	750	3·0	9,456	10·1
Do. late	..	..	..	..	..	..	..	..	..	54	54	0·2	118	0·1
Korra	9,370	18·0	12,951	21·0	4,550	19·4	1,027	12·9	943	3,182	4,125	16·4	14,184	15·1
Sazza	4,724	9·1	7,403	12·0	5,031	21·4	616	7·7	322	4,408	4,730	18·8	24,560	26·1
Arika	4,214	8·1	6,286	10·2	3,669	15·6	555	7·0	1,088	3,929	5,017	20·0	7,814	8·3
Ragi	1,994	3·8	1,001	1·6	3,333	14·2	227	2·9	122	421	543	2·2	1,916	2·0
Variga	3,233	6·2	2,179	3·5	495	2·1	362	4·5	753	2,737	3,490	13·9	4,132	4·4
Others	246	0·5	3	..	41	0·2	..	..	..	..	..	..	5	..
Total, Cereals ..	40,545	77·9	49,995	80·9	19,165	81·6	6,079	76·4	3,743	15,783	19,526	77·7	67,022	71·2
Pulses.														
Horse gram	5,466	10·5	5,883	9·5	2,377	10·1	304	3·8	270	1,771	2,041	8·1	13,201	14·0
Bengal do.	549	1·0	56	0·1	..	..	28	0·4	29	17	46	0·2	57	0·1
Red gram	215	0·4	8	..	2	..	..	..	34	267	301	1·2	211	0·2
Green gram	187	0·4	1	..	..	..	..	..	1	1	2	..	5	..
Others	310	0·6	3	..	22	0·1	..	..	..	1	1	..	3	..
Total, Pulses ..	6,727	12·9	5,951	9·6	2,401	10·2	332	4·2	334	2,057	2,391	9·5	13,477	14·3
Industrial Crops.														
Sugars	28	0·1	6	..	1	..	380	4·8	28	..	28	0·1	..	..
Oil-seeds—														
Linseed	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gingelly	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Castor	1,324	2·5	2,226	3·6	484	2·0	100	1·2	177	920	1,097	4·4	6,926	7·4
Others	..	..	..	..	..	..	..	..	165	276	441	1·7	970	1·0
Indigo	1,282	2·5	1,169	1·9	679	2·9	817	10·3	234	1,305	1,539	6·1	5,266	5·6
Cotton	1,887	3·6	1,886	3·1	688	3·0	81	1·0	..	1	1	..	3	..
Gogu	..	..	2	..	..	..	..	..	..	..	..	..	29	..
Tobacco	2	..	5	..	..	..	..	..	..	..	..	..	..	..
Total, Industrial Crops ..	4,523	8·7	5,294	8·6	1,852	7·9	1,378	17·3	604	2,502	3,106	12·3	13,206	14·0
Others.														
Omum	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Betel leaves	27	..	7	..	..	..	32	0·4	..	2	2	..	1	..
Chillies	103	0·2	427	0·7	65	0·2	12	0·2	17	73	90	0·4	37	..
Other vegetables	31		16		11		34	0·4	..	2	2	..	418	0·5
Fruit trees	56	0·3	31	0·2	13	0·1	89	1·1	22	5	27	0·1	10	
All others	65		51		..	..	3	..	1	..	1	..	4	
Total, Others ..	282	0·5	532	0·9	89	0·3	170	2·1	40	82	122	0·5	470	0·5
Total area referred to ..	52,077	100	61,772	100	23,507	100	7,959	100	4,721	20,424	25,145	100	94,175	100

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Appendix XII.—Statement showing the population, and the live and dead stock kept in the different tracts of the Kurnool District.

Particulars.	Kurnool Tract.	Bellagal Tract.			Hosur Tract.	Piapalle Tract.			S. Erramala Tract.			N. Erramala Tract.		
	Rámallakót Taluk.	Pattikonda Taluk.	Rámallakót Taluk.	Total.	Pattikonda Taluk.	Pattikonda Taluk.	Rámallakót Taluk.	Total.	Pattikonda Taluk.	Koilkuntla Taluk.	Total.	Rámallakót Taluk.	Nandyál Taluk.	Total.
Total area of arable land, acres	143,899	..	..	290,675	69,227	..	..	295,005	..	..	61,759	..	..	125,560
Total area occupied do.	134,589	..	..	226,994	56,713	..	..	189,748	..	..	45,270	..	..	94,617
Total area cultivated do.	128,785	..	..	212,778	51,956	..	..	167,275	..	..	41,035	..	..	83,923
Houses, number .. Occupied	9,739	7,931	3,438	11,369	2,858	7,692	2,176	9,868	2,274	1,262	3,536	2,855	3,591	6,446
Houses, number .. Unoccupied	2,190	1,150	696	1,846	420	1,369	592	1,961	360	341	701	784	799	1,583
Population, number. Male	24,191	21,429	9,588	31,017	7,435	20,128	5,696	25,824	5,674	2,694	8,368	6,884	8,309	15,193
Population, number. Female	24,125	20,217	8,792	29,009	7,078	18,376	5,051	23,427	5,101	2,460	7,561	6,472	7,535	14,007
Population, number. Total	48,316	41,646	18,380	60,026	14,513	38,504	10,747	49,251	10,775	5,154	15,929	13,356	15,844	29,200
Population per 1,000 acres of arable land	336	..	..	207	210	..	..	167	..	..	258	..	..	233
Education. Under instruction and instructed..	3,945	1,474	661	2,135	706	1,559	314	1,873	343	177	520	592	764	1,356
Education. Illiterate	44,371	40,172	17,719	57,891	13,807	36,945	10,433	47,378	10,432	4,977	15,409	12,764	15,080	27,844
Education. Do. per cent.	92	..	..	96	95	..	..	96	..	..	97	..	..	95
Stock kept—														
Tilling cattle.. Bullocks	7,211	10,582	4,451	15,033	3,027	13,016	3,368	16,384	3,624	1,400	5,024	4,249	4,816	9,065
Tilling cattle.. He-buffaloes	1,766	2,239	1,036	3,275	189	1,685	961	2,646	165	188	353	250	239	489
Acres cultivated per pair	29	..	..	23	32	..	..	18	..	..	15	..	..	18
Breeding stock. Cows	2,349	5,350	2,502	7,852	1,234	10,294	2,509	12,803	3,723	1,298	5,021	2,701	3,456	6,157
Breeding stock. Young cattle	3,513	7,442	3,072	10,514	1,454	14,697	3,704	18,401	5,054	1,652	6,706	3,609	4,457	8,066
Breeding stock. She-buffaloes	4,249	4,587	2,329	6,916	1,203	4,859	1,709	6,568	2,790	970	3,760	3,091	3,901	6,992
Breeding stock. Young buffaloes	5,684	5,952	3,226	9,178	1,239	6,592	2,822	9,414	3,414	1,229	4,643	3,851	4,545	8,396
Breeding stock. Sheep	46,863	34,609	26,303	60,912	7,586	38,131	12,165	50,296	8,606	6,697	15,303	9,082	8,533	17,615
Breeding stock. Goats	11,250	8,482	6,482	14,964	3,293	17,967	6,621	24,588	9,004	4,116	13,120	10,033	11,157	21,190
Total stock reduced to cattle *	31,796	..	..	58,097	9,175	..	..	67,285	..	..	25,517	..	..	38,695
Do. do. per 100 acres occupied	24	..	..	26	16	..	..	35	..	..	56	..	..	41
Do. do. per 100 acres cultivated	25	..	..	27	18	..	..	40	..	..	62	..	..	46
Ploughs. Number .. Ordinary	3,322	5,222	2,276	7,498	1,186	6,224	1,981	8,205	1,586	683	2,269	1,931	2,165	4,096
Ploughs. Number .. Large	379	315	162	477	65	79	38	117	80	95	175	128	202	330
Ploughs. Acres cultivated per ordinary plough.	39	..	..	28	44	..	..	20	..	..	18	..	..	20
Drills .. Number .. 3 rowed	2,667	3,511	1,736	5,247	888	4,221	1,381	5,602	1,221	421	1,642	1,507	1,670	3,177
Drills .. Number .. 6 rowed	556	81	174	255	31	4	59	63	57	151	208	285	454	739
Drills .. Acres cultivated per drill	40	..	..	39	57	..	..	30	..	..	22	..	..	21
Sugar mills	1	..	..	..	..	..	..	..	..	..	..	5	18	23
Oil mills	20	10	2	12	3	5	..	5	2	..	2	..	..	..
Indigo vats	51	10	33	43	14	4	1	5	5	..	5	12	14	26
Carts	1,556	1,376	790	2,166	450	1,438	488	1,926	536	292	828	749	958	1,707
Acres cultivated per cart	83	..	..	98	115	..	..	87	..	..	50	..	..	49

* Tilling cattle, cows and she-buffaloes are taken as 1, young stock at ½, and sheep and goats at ⅓ of one head of cattle.

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APPENDIX XII.—Statement the showing the population, and the live and dead stock kept in the different tracts of the Kurnool District—*cont.*

Particulars.	Nannur Tract.				Nandikotkur Tract.			Atmakur Tract.	Nallamala Tract.			Kunder Tract.	
	Rámallakót Taluk.	Nandikótkur Taluk.	Nandyál Taluk.	Total.	Nandikótkur Taluk.	Nandyál Taluk.	Total.	Nandikótkur Taluk.	Nandyál Taluk.	Sirvel Taluk.	Total.	Nandyál Taluk.	Koilkuntla Taluk.
Total area of arable land, acres	..	..	..	61,501	..	..	266,519	110,572	..	..	121,622	..	..
Total area occupied do.	..	..	..	56,011	..	..	203,516	49,689	..	..	93,908	..	..
Total area cultivated do.	..	..	..	51,992	..	..	185,359	44,741	..	..	81,899	..	..
Houses, number { Occupied	821	1,908	777	3,506	9,771	1,274	11,045	3,057	2,887	4,210	7,097	8,614	12,733
Houses, number { Unoccupied	208	507	154	869	2,293	260	2,553	426	278	670	948	1,164	3,323
Population, number. { Male	2,034	4,710	1,526	8,270	23,846	2,981	26,827	7,265	6,608	8,647	15,255	20,264	27,710
Population, number. { Female	1,865	4,556	1,595	8,016	23,142	2,927	26,069	7,255	6,438	8,453	14,921	20,099	27,903
Population, number. { Total	3,899	9,266	3,121	16,286	46,988	5,908	52,896	14,520	13,046	17,130	30,176	40,363	55,613
Population per 1,000 acres of arable land	..	..	..	265	..	..	198	131	..	..	248	..	..
Education .. { Under instruction and instructed.	160	405	140	705	2,455	301	2,756	761	557	1,155	1,712	2,651	3,529
Education .. { Illiterate	3,739	8,861	2,981	15,581	44,533	5,607	50,140	13,759	12,489	15,975	28,464	37,712	52,084
Education .. { Do. per cent.	..	..	..	96	..	..	95	95	..	..	94	..	..
Stock kept—													
Tilling cattle .. { Bullocks	983	2,398	693	4,074	12,701	1,627	14,328	4,888	3,854	3,865	7,719	6,999	9,322
Tilling cattle .. { He-buffaloes	64	206	47	317	1,232	68	1,300	417	284	631	915	161	421
Acres cultivated per pair	..	..	..	24	..	..	24	17	..	..	19	..	..
Breeding stock. { Cows	372	1,020	440	1,832	6,810	1,282	8,092	4,988	1,898	2,070	3,968	2,487	1,868
Breeding stock. { Young cattle	491	1,736	598	2,825	10,069	1,725	11,794	6,734	2,693	2,812	5,505	3,302	3,095
Breeding stock. { She-buffaloes	731	1,576	638	2,945	9,731	1,375	11,106	3,061	2,797	3,162	5,959	7,524	9,494
Breeding stock. { Young buffaloes	835	2,373	779	3,987	12,322	1,791	14,113	4,167	3,550	3,759	7,309	7,534	10,729
Breeding stock. { Sheep	3,199	6,395	2,634	12,278	41,501	4,455	45,956	7,767	6,176	10,801	16,977	10,267	27,059
Breeding stock. { Goats	2,077	4,180	1,201	7,458	17,118	4,554	21,672	7,404	3,228	3,409	6,637	8,176	15,186
Total stock reduced to cattle	..	..	..	16,521	..	..	61,305	21,838	..	..	29,691	..	..
Do. do. per 100 acres occupied	..	..	..	29	..	..	30	44	..	..	32	..	..
Do. do. per 100 acres cultivated	..	..	..	32	..	..	33	49	..	..	36	..	..
Ploughs. Number .. { Ordinary	418	1,176	284	1,878	5,386	724	6,110	2,130	1,842	1,969	3,811	3,456	4,247
Ploughs. Number .. { Large	38	91	26	155	224	20	244	2	5	15	20	83	174
Ploughs. Acres cultivated per ordinary plough.	..	..	..	28	..	..	30	21	..	..	21	..	..
Drills .. Number .. { 3 rowed	322	1,156	206	1,684	4,869	398	5,267	2,063	1,248	1,401	2,649	1,866	2,034
Drills .. Number .. { 6 rowed	94	247	95	436	1,692	278	1,970	253	543	690	1,233	1,940	3,411
Drills .. Acres cultivated per drill	..	..	..	25	..	..	26	19	..	..	21	..	..
Sugar mills	1	..	..	4	5	..	..	..	11	..	11	5	..
Oil mills	..	..	..	1	1	14	..	14	2	1	2	16	64
Indigo vats	11	17	8	36	178	32	210	24	18	20	38	177	196
Carts	185	540	136	861	3,043	370	3,413	971	1,086	1,116	2,201	2,356	3,342
Acres cultivated per cart	..	..	..	60	..	..	54	46	..	..	37	..	..

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Appendix XII.—Statement showing the population, and the live and dead stock kept in the different tracts of the Kurnool District—*cont.*

Particulars.	Kunder Tract—*cont.*		Owk Tract.	Chaygal-marri Tract.	Sagiler Tract.	Gundla-kamma Tract.	Basinepalle Tract.	Cumbum Tract.	Vemulakota Tract.			Dupad Tract.
	Sirvel Taluk.	Total.	Koilkuntla Taluk.	Sirvel Taluk.	Cumbum Taluk.	Cumbum Taluk.	Cumbum Taluk.	Cumbum Taluk.	Cumbum Taluk.	Márkápur Taluk.	Total.	Márkápur Taluk.
Total area of arable land, acres	..	363,793	49,585	81,262	76,643	94,962	39,478	9,410	..	..	41,702	235,094
Total area occupied do.	..	350,215	43,474	69,395	60,749	77,403	34,326	8,496	..	..	32,608	155,976
Total area cultivated do.	..	341,407	39,662	64,001	52,184	62,799	25,733	7,623	..	..	28,382	106,197
Houses, number.. Occupied	3,499	24,846	3,752	5,252	7,233	8,288	3,302	4,109	711	2,012	2,723	14,531
Houses, number.. Unoccupied	647	5,134	1,162	776	572	712	301	759	102	190	292	1,413
Population, number.. Male	7,864	55,838	7,792	12,233	17,076	19,793	8,237	8,268	1,680	4,926	6,606	37,319
Population, number.. Female	7,780	55,782	7,737	12,179	17,228	19,680	7,859	8,356	1,674	4,930	6,604	36,873
Population, number.. Total	15,644	111,620	15,529	24,412	34,304	39,473	16,096	16,624	3,354	9,856	13,210	74,192
Population per 1,000 acres of arable land	..	307	313	300	448	416	408	1,767	..	..	317	316
Education. Under instruction and instructed	817	6,997	773	1,272	1,325	1,275	398	1,132	108	329	437	2,505
Education. Illiterate	14,827	104,623	14,751	23,140	32,979	38,198	15,698	15,492	3,246	9,527	12,773	71,687
Education. Do., per cent	..	94	95	95	96	97	98	93	..	..	97	97
Stock kept—												
Tilling cattle.. Bullocks	3,230	19,551	3,471	5,028	6,066	7,195	3,113	1,348	667	2,081	2,748	14,139
Tilling cattle.. He-buffaloes	37	619	313	503	225	194	59	1,328	84	201	285	2,609
Acres cultivated per pair	..	34	21	23	17	17	16	6	..	..	19	18
Breeding stock. Cows	1,057	5,412	1,551	2,384	4805	8,593	2,991	272	225	1,525	1,750	24,028
Breeding stock. Young cattle	1,333	7,730	1,919	3,182	6,423	11,567	4,339	373	234	1,767	2,001	22,587
Breeding stock. She-buffaloes	2,979	19,997	3,043	4,462	7,820	7,142	2,798	1,108	508	1,548	2,056	12,930
Breeding stock. Young buffaloes	3,239	21,502	3,323	5,064	9,014	7,685	3,167	1,260	650	1,828	2,478	14,220
Breeding stock. Sheep	8,011	45,337	13,483	13,404	17,452	21,883	13,682	2,382	5,267	13,074	18,341	116,439
Breeding stock. Goats	2,697	26,059	9,833	5,125	10,525	18,828	11,315	924	1,005	3,921	4,926	55,612
Total stock reduced to cattle	..	74,474	15,662	20,196	32,229	40,892	17,713	5,533	..	..	13,731	106,519
Do. do. per 100 acres occupied	..	21	36	29	53	53	52	65	..	..	42	68
Do. do. per 100 acres cultivated	..	22	39	32	62	65	69	73	..	..	48	100
Ploughs. Number.. Ordinary	1,422	9,125	1,678	2,417	4,428	3,716	2,024	1,899	412	1,504	1,916	7,808
Ploughs. Number.. Large	43	300	208	24	2	..	2	..	..	..	..	..
Ploughs. Acres cultivated per ordinary plough.	..	37	24	26	12	17	13	4	..	..	15	14
Drills .. Number.. 3 rowed	674	4,574	846	758	2,727	3,031	1,106	667	302	950	1,252	5,102
Drills .. Number.. 6 rowed	1,050	6,401	844	1,468	207	46	5	..	..	..	..	..
Drills .. Acres cultivated per drill	..	31	23	29	18	20	23	11	..	..	23	21
Sugar mills	..	5	..	..	..	..	..	60	..	..	..	..
Oil mills	10	90	8	3	..	..	..	2	..	..	..	1
Indigo vats	85	458	27	83	51	78	19	15	1	26	27	87
Carts	1,043	6,741	934	1,458	1,283	1,518	536	531	245	448	693	2,479
Acres cultivated per cart	..	51	42	44	41	41	48	14	..	..	41	43

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Appendix XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District.

Tract		Kurnool.		Bellagal.						Hosur.		Piapalle.	
Taluk		Rámallakót.		Pattikonda.		Rámallakót.		Total.		Pattikonda.		Pattikonda.	
Total area	Acres	167,286.		222, 578.		132,582.		355,160.		74,847.		323,085.	
		Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation	Acres.	6,385	17,002	17,514	16,289	22,475	8,207	39,989	24,496	1,311	4,309	55,082	35,815
Do. do. do. per cent. of Total	..	4	10	..	..	..	..	11	7	2	6	..	..
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. Government	Acres.	95,601	447	137,583	1,737	76,323	821	213,906	2,558	48,831	180	175,157	3,343
Inam	Do.	47,468	383	49,023	432	24,451	305	73,474	737	20,150	66	52,417	1,271
Total	Do.	143,069	830	186,606	2,169	100,774	1,126	287,380	3,295	68,981	246	227,574	4,614
Average occupied Government land. Area	Acres	86,403	335	95,349	976	56,002	456	151,351	1,432	36,366	131	89,926	2,099
Assessment	Rs.	78,329	1,655	68,898	5,610	42,898	2,222	1,11,796	7,832	39,969	789	44,341	11,429
Assessment per acre	Rs.	0 14 6	4 15 1	..	..	..	..	0 11 10	5 7 6	1 1 7	6 0 4	..	..
Area available for occupation, Government. Area	Acres.	9,198	112	41,603	761	20,321	365	61,924	1,126	12,222	49	80,427	1,244
Assessment	Rs.	6,567	460	23,427	4,846	12,713	1,697	36,140	6,543	15,915	282	37,634	6,431
Assessment per acre	Rs.	0 11 5	4 1 9	..	..	..	..	0 9 4	5 12 11	1 4 10	5 12 1	..	..
Unassessed area	Acres.	..	..	631	..	..	..	631	..	243	..	4,804	..
Per cent. of total Government land	..	10	25	..	..	..	..	29	44	25	27	..	..
Area occupied, Government and Inam Total	Acres.	133,871	718	144,372	1,408	80,453	761	224,825	2,169	56,516	197	142,343	3,370
Do. per cent. of total arable area	..	93	..	..	..	..	..	77	1	82	..	..	..
Area of Inam land, for which full particulars are not available	Acres.	4,661	127	1,406	3	385	8	1,791	11	..	..	5,691	62
Remainder .. Occupied, Government and Inam	Do.	129,210	591	142,966	1,405	80,068	753	223,034	2,158	56,516	197	136,652	3,308
Average area cultivated. Government	Acres.	83,992	288	92,865	770	55,450	360	148,315	1,130	34,572	77	86,444	1,090
Inam	Do.	40,473	173	39,685	304	22,027	179	61,712	483	17,267	40	37,616	590
Total	Do.	124,465	461	132,550	1,074	77,477	539	210,027	1,613	51,839	117	124,060	1,680
Average assessment on cultivated land Government	Rs.	77,121	1,447	67,480	4,396	42,429	1,722	109,909	6,118	38,177	447	43,449	6,185
Inam	Rs.	36,050	811	31,032	1,797	16,990	875	48,022	2,672	19,827	278	18,513	3,289
Total	Rs.	113,171	2,258	98,512	6,193	59,419	2,597	157,931	8,790	58,004	725	61,962	9,474
Assessment per acre of cultivated land. Government	Rs.	0 14 8	5 6 5	..	..	..	..	0 11 10	5 6 8	1 1 8	5 12 11	..	..
Inam	Rs.	0 14 3	4 11 0	..	..	..	..	0 12 5	5 8 6	1 2 4	6 15 2	..	..

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Appendix XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District—*cont.*

Tract		Piapalle—*cont.*				South Erramala						North Erramala.	
Taluk		Rámallakót.		Total.		Pattikonda.		Koilkuntla.		Total.		Rámallakót.	
Total area	Acres.	93,984		417,069		60,997		65,115		126,112		95,210	
		Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation	Acres.	15,389	15,778	70,471	51,593	1,189	18,432	9,641	35,091	10,830	53,523	27,431	19,754
Do. do. do. per cent. of Total	..	..	..	17	12	..	..	..	..	9	42	..	..
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. — Government	Acres.	45,575	1,382	220,732	4,725	29,451	615	13,138	265	42,589	880	29,619	295
Inam	Do.	15,318	542	67,735	1,813	10,969	341	6,668	312	17,637	653	17,999	112
Total	Do.	60,893	1,924	288,467	6,538	40,420	956	19,806	577	60,226	1,533	47,618	407
Average occupied Government land. — Area	Acres.	27,503	672	117,429	2,771	17,411	502	8,823	244	26,234	746	22,620	279
Assessment	Rs.	13,826	3,426	58,167	14,855	11,094	2,404	6,728	1,757	17,822	4,161	17,584	1,588
Assessment per acre	Rs.	..	..	0 7 11	5 5 9	..	..	..	..	0 10 10	5 9 3	..	..
Area available for occupation, Government. — Area	Acres.	18,072	710	98,499	1,954	11,187	113	4,240	21	15,427	134	6,999	16
Assessment	Rs.	7,122	3,523	44,756	9,954	4,851	533	1,622	114	6,473	647	3,714	97
Assessment per acre	Rs.	..	..	0 7 3	5 1 6	..	..	..	..	0 6 9	4 13 3	..	..
Unassessed area	Acres.	..	..	4,804	..	853	..	75	..	928	..	..	..
Per cent. of total Government land	..	..	..	47	41	..	..	..	..	38	15	..	..
Area occupied, Government and Inam — Total	Acres.	42,821	1,214	185,164	4,584	28,380	843	15,491	556	43,871	1,399	40,619	391
Do. per cent. of total arable area	..	..	..	63	2	..	..	..	..	71	2	..	..
Area of Inam land, for which full particulars are not available	Acres.	2,157	33	7,848	95	..	..	..	..	..	..	869	..
Remainder — Occupied, Government and Inam	Do.	40,664	1,181	177,316	4,489	28,380	843	15,491	556	43,871	1,399	39,750	391
Average area cultivated. — Government	Acres.	26,398	494	112,842	1,584	16,655	430	8,177	236	24,832	666	21,365	216
Inam	Do.	10,900	288	48,516	878	9,092	272	5,885	288	14,977	560	14,950	62
Total	Do.	37,298	782	161,358	2,462	25,747	702	14,062	524	39,809	1,226	36,315	278
Average assessment on cultivated land. — Government	Rs.	13,307	2,584	56,756	8,769	10,769	2,133	6,445	1,696	17,214	3,829	17,140	1,310
Inam	Rs.	5,487	1,475	24,000	4,764	5,537	1,286	4,725	2,087	10,262	3,373	12,434	355
Total	Rs.	18,794	4,059	80,756	13,533	16,306	3,419	11,170	3,783	27,476	7,202	29,574	1,665
Assessment per acre of cultivated land. — Government	Rs.	..	..	0 8 1	5 8 7	..	..	..	..	0 11 1	5 12 0	..	..
Inam	Rs.	..	..	0 7 11	5 6 10	..	..	..	..	0 11 0	6 0 4	..	..

Appendix XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District—*cont.*

Tract	North Erramala—*cont.*				Nannur.							
Taluk	Nandyál.		Total.		Rámallakót.		Nandikótkur.		Nandyál.		Total.	
Total area .. Acres.	161,740		256,950		22,062		47,720		15,890		85,672	
	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation .. .. Acres.	18,822	65,383	46,253	85,137	1,092	5,523	5,065	8,731	2,050	1,710	8,207	15,964
Do. do. do. per cent. of Total ..	..	..	18	33	..	..	..	..	..	..	9	19
	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. — Government .. .. Acres.	52,476	504	82,095	799	8,555	68	19,481	190	7,583	..	35,619	258
Inam .. .. .. Do.	24,171	384	42,170	496	6,776	48	14,155	98	4,547	..	25,478	146
Total .. .. .. Do.	76,647	888	124,265	1,295	15,331	116	33,636	288	12,130	..	61,097	404
Average occupied Government land. — Area .. .. .. Acres.	28,571	481	51,191	760	7,595	62	17,720	159	4,851	..	30,166	221
Assessment .. .. Rs.	21,818	2,228	39,402	3,816	7,886	395	22,980	1,013	5,884	..	36,750	1,408
Assessment per acre .. Rs.	..	..	0 12 4	5 0 4	..	..	..	..	..	..	1 3 6	6 5 11
Area available for occupation, Government. — Area .. .. .. Acres.	10,078	23	17,077	39	960	6	1,761	31	1,287	..	4,008	37
Assessment .. .. Rs.	5,087	93	8,801	190	684	30	1,485	136	1,132	..	3,301	166
Assessment per acre .. Rs.	..	..	0 8 3	4 13 11	..	..	..	..	..	..	0 13 2	4 7 9
Unassessed area .. .. Acres.	13,827	..	13,827	..	..	..	..	..	1,445	..	1,445	..
Per cent. of total Government land ..	..	..	38	5	..	..	..	..	..	..	15	14
Area occupied, Government and Inam — Total .. .. .. Acres.	52,742	865	93,361	1,256	14,371	110	31,875	257	9,398	..	55,644	367
Do. per cent. of total arable area ..	..	..	74	1	..	..	..	..	..	..	90	1
Area of Inam land, for which full particulars are not available .. .. Acres.	..	..	869	..	..	..	849	..	..	..	849	..
Remainder .. Occupied, Government and Inam Do.	52,742	865	92,492	1,256	14,371	110	31,026	257	9,398	..	54,795	367
Average area cultivated. — Government .. .. Acres.	25,474	441	46,839	657	6,981	58	17,149	141	4,769	..	28,899	199
Inam .. .. .. Do.	20,686	351	35,636	413	6,205	37	12,334	70	4,248	..	22,787	107
Total .. .. .. Do.	46,160	792	82,475	1,070	13,186	95	29,483	211	9,017	..	51,686	306
Average assessment on cultivated land. — Government .. .. Rs.	20,255	2,104	37,395	3,414	7,416	369	22,473	898	5,831	..	35,720	1,267
Inam .. .. .. Rs.	20,692	2,543	33,126	2,898	6,473	233	15,587	444	5,171	..	27,231	667
Total .. .. .. Rs	40,947	4,647	70,521	6,312	13,889	602	38,060	1,342	11,002	..	62,951	1,944
Assessment per acre of cultivated land — Government .. .. Rs	..	..	0 12 9	5 3 2	..	..	..	..	..	..	1 3 1	6 5 10
Inam .. .. .. Rs.	..	..	0 14 10	7 0 3	..	..	..	..	..	..	1 3 9	6 5 3

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Appendix XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District—*cont.*

Tract		Nandikotkur.						Atmakur.		Nallamala.					
Taluk		Nandikótkur.		Nandyál.		Total.		Nandikótkur.		Nandyál.		Sirvel.		Total.	
Total area	Acres.	294,766		40,270.		335,036		175,809		122,669		87,463		210,132	
		Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation	Acres.	26,862	28,463	7,519	5,673	34,381	34,136	49,979	15,258	57,446	9,163	14,215	7,686	71,661	16,849
Do do. do. per cent. of Total	..	..	..	..	..	10	10	*28	9	..	..	..	..	34	8
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. — Government	Acres.	163,435	336	19,535	75	182,970	411	87,825	3,630	40,006	1,354	44,655	1,414	84,661	2,768
Inam	Do.	75,356	314	7,443	25	82,799	339	17,180	1,937	13,683	1,017	18,258	1,235	31,941	2,252
Total	Do.	238,791	650	26,978	100	265,769	750	105,005	5,567	53,689	2,371	62,913	2,649	116,602	5,020
Average occupied Government land. — Area	Acres.	109,597	293	10,416	72	120,013	365	28,507	2,065	24,413	1,160	32,835	1,307	57,248	2,467
Assessment	Rs.	1,24,653	1,925	9,206	381	1,33,859	2,306	26,239	10,622	23,214	6,407	26,266	5,121	49,480	11,528
Assessment per acre	Rs.	..	..	..	..	1 1 10	6 5 1	0 14 9	5 2 4	..	..	..	..	0 13 10	4 10 9
Area available for occupation, Government. — Area	Acres.	53,731	43	7,183	3	60,914	46	16,502	1,091	10,228	194	11,375	107	21,603	301
Assessment	Rs.	39,714	252	3,540	19	43,254	271	14,361	5,476	7,591	936	10,035	400	17,626	1,336
Assessment per acre	Rs.	..	..	..	..	0 11 4	5 14 3	0 13 11	5 0 2	..	..	..	..	0 13 1	4 7 0
Unassessed area	Acres.	107	..	1,936	..	2,043	..	42,816	474	5,365	..	445	..	5,810	..
Per cent. of total Government land	..	..	..	..	..	34	11	68	43	..	..	..	..	32	11
Area occupied, Government and Inam — Total	Acres.	184,953	607	17,859	97	202,812	704	45,687	4,002	38,096	2,177	51,093	2,542	89,189	4,719
Do. per cent. of total arable area	..	..	..	..	..	76	..	*41	4	..	..	..	..	73	4
Area of Inam land, for which full particulars are not available	Acres.	3,915	252	..	..	3,915	252	2,367	..	..	..	..	..	..	..
Remainder .. Occupied, Government and Inam	Do.	181,038	355	17,859	97	198,897	452	43,320	4,002	38,096	2,177	51,093	2,542	89,189	4,719
Average area cultivated. — Government	Acres.	104,292	288	9,657	71	113,949	359	27,820	2,005	22,476	1,152	28,949	1,292	51,425	2,444
Inam	Do.	61,975	55	6,765	23	68,740	78	12,176	1,744	11,052	946	14,829	1,203	25,881	2,149
Total	Do.	166,267	343	16,422	94	182,689	437	39,996	3,749	33,528	2,098	43,778	2,495	77,306	4,593
Average assessment on cultivated land. — Government	Rs.	121,123	1,879	8,819	374	129,942	2,253	25,846	10,318	22,892	*6,414	23,514	*6,553	46,406	*12,967
Inam	Rs.	74,000	333	6,196	127	80,196	460	12,601	8,948	12,059	5,174	12,837	5,850	24,896	11,024
Total	Rs.	195,123	2,212	15,015	501	210,138	2,713	38,447	19,266	34,951	11,588	36,361	12,403	71,302	23,991
Assessment per acre of cultivated land. — Government	Rs.	..	..	..	..	1 2 3	6 4 5	0 14 10	5 2 4	..	..	..	..	0 14 5	5 4 11
Inam	Rs.	..	..	..	..	1 2 8	5 14 4	1 0 7	5 2 1	..	..	..	..	0 15 5	5 2 1

* Includes 2nd crop.

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APPENDIX XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District—*cont.*

Tract		KUNDER.								OWK.		CHAYGALMARRI		SAGILER.	
Taluk		Nandyál.		Koilkuntla.		Sirvel.		Total.		Koilkuntla.		Sirvel.		Cumbum.	
Total area	Acres.	137,034.		209,689.		77,087.		423,810.		71,661.		111,923.		111,423.	
		Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation	Acres.	3,988	18,269	19,894	12,386	2,694	2,786	26,576	33,441	13,914	8,162	24,651	6,010	20,459	14,321
Do. do. do. per cent. of Total	..	..	..	..	..	..	..	6	8	19	11	22	5	18	13
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. — Government	Acres.	67,209	1,365	105,869	880	43,960	19	217,038	2,264	25,440	1,720	50,730	606	42,585	1,771
Inam	Do.	45,340	863	69,834	826	27,619	9	142,793	1,698	21,443	982	29,340	586	30,499	1,788
Total	Do.	112,549	2,228	175,703	1,706	71,579	28	359,831	3,962	46,883	2,702	80,070	1,192	73,084	3,559
Average occupied Government land. — Area	Acres.	62,683	1,272	98,627	836	42,287	19	203,597	2,127	19,617	1,432	38,968	501	27,119	1,343
Assessment	Rs.	91,602	5,468	1,60,280	7,887	65,750	45	3,17,632	13,400	19,776	11,398	50,312	3,024	25,169	7,506
Assessment per acre	Rs.	..	..	..	..	..	..	1 9 0	6 4 10	1 0 2	7 15 4	1 4 8	6 0 7	0 14 10	5 9 5
Area available for occupation, Government. — Area	Acres.	3,411	93	7,108	44	1,660	..	12,179	137	5,083	288	11,317	105	15,265	428
Assessment	Rs.	5,079	530	8,319	296	2,649	..	16,047	826	3,288	2,193	12,713	569	10,044	1,897
Assessment per acre	Rs.	..	..	..	..	..	..	1 5 1	6 0 6	0 10 4	7 9 10	1 2 0	5 6 8	0 10 6	4 6 11
Unassessed area	Acres.	1,115	..	134	..	13	..	1,262	..	740	..	445	..	201	..
per cent. of total Government land	..	..	..	..	..	..	..	6	6	23	17	23	17	36	24
Area occupied, Government and Inam — Total	Acres.	108,023	2,135	168,461	1,662	69,906	28	346,390	3,825	41,060	2,414	68,308	1,087	57,618	3,131
Do. per cent. of total arable area	..	..	..	..	..	..	..	95	1	83	5	84	1	75	4
Area of Inam land, for which full particulars are not available	Acres.	..	..	854	..	..	..	854	..	997	48	..	..	7,283	355
Remainder .. Occupied Government and Inam	Do.	108,023	2,135	167,607	1,662	69,906	28	345,536	3,825	40,063	2,366	68,308	1,087	50,335	2,776
Average area cultivated. — Government	Acres.	61,090	1,213	96,584	827	41,156	19	198,830	2,059	18,265	1,284	36,866	487	24,838	1,277
Inam	Do.	43,602	846	68,197	805	26,423	8	138,222	1,659	18,617	837	26,184	464	19,050	1,309
Total	Do.	104,692	2,059	164,781	1,632	67,579	27	337,052	3,718	36,882	2,121	63,050	951	43,888	2,586
Average assessment on cultivated land. — Government	Rs.	90,507	* 6,714	157,320	7,621	60,283	45	308,110	* 14,380	18,996	10,795	47,380	2,745	23,650	7,253
Inam	Rs.	62,095	4,575	112,115	7,315	36,675	15	210,885	11,905	20,798	6,952	32,855	2,591	19,696	7,249
Total	Rs.	152,602	11,289	269,435	14,936	96,958	60	518,995	26,285	39,794	17,747	80,235	5,336	43,346	14,502
Assessment per acre of cultivated land. — Government	Rs.	..	..	..	..	..	..	1 8 10	6 15 9	1 0 8	8 6 6	1 4 7	5 10 2	0 15 3	5 10 11
Inam	Rs.	..	..	..	..	..	..	1 8 5	7 2 10	1 1 10	8 4 11	1 4 1	5 9 4	1 0 7	5 8 7

* Includes 2nd crop.

Appendix XIII.—Statement showing the total, arable, occupied and cultivated areas in the different tracts of the Kurnool District—*cont.*

Tract		Gundlakamma.		Basinepalle.		Cumbum.		Vemulakota.						Dupad.	
Taluk		Cumbum.		Cumbum.		Cumbum.		Cumbum.		Márkápur.		Total.		Márkápur.	
Total area	Acres.	125,762		83,761		13,748		6,900		43,972		50,872		320,081	
		Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.	Forest.	Poramboke.
Area not available for cultivation	Acres.	12,403	18,397	37,283	7,000	832	3,506	381	952	3,837	4,000	4,218	4,952	41,350	43,637
Do. do. do. per cent. of Total	..	10	15	45	8	6	25	..	..	..	..	8	10	13	14
		Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.	Dry.	Wet.
Area available for cultivation or arable area. Government	Acres.	52,808	2,512	17,337	337	3,467	3,102	4,006	481	22,900	906	26,906	1,387	162,182	5,421
Inam	Do.	38,189	1,453	21,525	279	1,291	1,550	880	200	11,992	337	12,872	537	65,900	1,591
Total	Do.	90,997	3,965	38,862	616	4,758	4,652	4,886	681	34,892	1,243	39,778	1,924	228,082	7,012
Average occupied Government land. Area	Acres.	35,736	2,025	12,238	284	2,742	2,913	3,437	461	14,618	683	18,055	1,144	84,035	4,450
Assessment	Rs.	30,032	11,310	5,721	1,195	1,721	31,882	2,526	3,301	10,851	4,097	13,377	7,398	41,879	24,048
Assessment per acre	Rs.	0 13 5	5 9 4	0 7 6	4 3 4	0 10 1	10 15 1	..	..	..	..	0 11 10	6 7 6	0 8 0	5 6 6
Area available for occupation, Government. Area	Acres.	17,072	487	5,001	53	725	189	569	20	8,176	223	8,745	243	77,635	971
Assessment	Rs.	10,543	2,299	2,283	217	403	1,660	530	173	5,357	1,502	5,887	1,675	32,472	4,563
Assessment per acre	Rs.	0 9 11	4 11 6	0 7 4	4 1 6	0 8 11	8 12 6	..	..	..	..	0 10 9	6 14 3	0 6 8	4 11 2
Unassessed area	Acres.	..	..	98	..	..	..	..	..	106	..	106	..	512	..
per cent. of total Government land	..	32	19	29	16	21	6	..	..	..	..	33	18	48	18
Area occupied, Government and Inam Total	Acres.	73,925	3,478	33,763	568	4,033	4,463	4,317	661	26,610	1,020	30,927	1,681	149,935	6,041
Do. per cent. of total arable area	..	78	4	86	1	43	47	..	..	..	..	74	4	64	3
Area of Inam land for which full particulars are not available	Acres.	12,212	131	14,038	95	..	..	568	..	4,250	4	4,818	4	29,635	220
Remainder .. Occupied Government and Inam	Do.	61,713	3,347	19,725	468	4,033	4,463	3,749	661	22,360	1,016	26,109	1,677	120,300	5,821
Average area cultivated. Government	Acres.	32,118	1,867	11,839	278	2,361	2,834	3,227	454	14,081	568	17,308	1,022	74,933	3,759
Inam	Do.	23,363	1,161	6,377	170	917	1,511	270	187	6,252	255	6,522	442	19,942	934
Total	Do.	55,481	3,028	18,216	448	3,278	4,345	3,497	641	20,333	823	23,830	1,464	94,875	4,693
Average assessment on cultivated land. Government	Rs.	28,374	10,927	5,553	1,172	1,590	31,258	2,394	3,252	10,537	3,434	12,931	6,686	38,212	21,521
Inam	Rs.	19,816	6,991	3,050	729	418	11,966	211	1,499	4,694	1,661	4,905	3,160	9,583	5,913
Total	Rs.	48,190	17,918	8,603	1,901	2,008	43,224	2,605	4,751	15,231	5,095	17,836	9,846	47,795	27,434
Assessment per acre of cultivated land. Government	Rs.	0 14 2	5 13 8	0 7 6	4 3 5	0 10 9	11 0 6	..	..	..	..	0 11 11	6 8 8	0 8 2	5 11 7
Inam	Rs.	0 13 7	6 0 4	0 7 8	4 4 7	0 7 4	7 14 8	..	..	..	..	0 12 0	7 2 5	0 7 8	6 5 4

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Appendix XIV-A.—Statement showing the distribution of holdings of Government land in the different tracts of the Kurnool District.

Class, *i.e.*, Pattas paying	Kurnool Tract.				Bellagal Tract.											
	Rámallakót Taluk.				Pattikonda Taluk.				Rámallakót Taluk.				Total.			
	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	1,464	504	14,364	9,824	4,053	905	37,269	21,174	1,736	448	18,900	10,809	5,789	1,353	56,169	31,983
From ,, 10 to Rs. 30	1,037	466	29,549	26,218	1,240	474	33,470	27,835	840	264	23,517	19,029	2,080	738	56,987	46,864
,, ,, 30 to ,, 50	260	109	14,895	14,390	241	89	12,477	11,837	138	52	7,828	7,410	379	141	20,305	19,247
,, ,, 50 to ,, 100	164	70	15,852	16,418	100	32	8,123	8,843	72	30	6,428	6,587	172	62	14,551	15,430
,, ,, 100 to ,, 250	52	26	10,779	11,347	21	9	3,738	3,197	17	3	2,413	2,790	38	12	6,151	5,987
,, ,, 250 to ,, 500	2	3	1,661	1,671	..	..	..	..	..	1	177	422	..	1	177	422
,, ,, 500 to ,, 1,000	2	..	1,009	1,238	..	..	..	..	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	2,981	1,178	88,109	81,106	5,655	1,509	95,077	72,886	2,803	798	59,263	47,047	8,458	2,307	154,340	1,19,933

Class, *i.e.*, Pattas paying	Hosur Tract.				Piapalle Tract.											
	Pattikonda Taluk.				Pattikonda Taluk.				Rámallakót Taluk.				Total.			
	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	891	212	7,018	5,673	4,016	883	46,449	21,496	991	290	14,165	6,347	5,007	1,173	60,614	27,843
From ,, 10 to Rs. 30	496	164	10,546	11,345	1,018	258	31,331	22,644	296	147	11,477	7,362	1,314	405	42,808	30,006
,, ,, 30 to ,, 50	161	58	6,408	8,262	92	43	4,288	4,918	24	33	2,489	2,047	116	76	6,777	6,965
,, ,, 50 to ,, 100	106	41	7,247	10,127	38	28	2,743	4,339	9	10	1,266	1,285	47	38	4,009	5,624
,, ,, 100 to ,, 250	25	11	3,135	4,580	6	1	1,165	1,072	3	3	867	796	9	4	2,032	1,868
,, ,, 250 to ,, 500	2	..	471	691	..	..	..	..	..	..	..	..	..	..	..	..
,, ,, 500 to ,, 1,000	1	..	259	529	..	..	..	..	1	..	593	593	1	..	593	593
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,682	486	35,084	41,207	5,170	1,213	85,976	54,469	1,324	483	30,857	18,430	6,494	1,696	116,833	72,899

Class, *i.e.*, Pattas paying	South Erramala Tract.												North Erramala Tract.			
	Pattikonda Taluk.				Koilkuntla Taluk.				Total.				Rámallakót Taluk.			
	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	1,236	276	10,320	5,937	597	171	4,424	2,901	1,833	447	14,744	8,838	1,006	409	9,732	6,157
From ,, 10 to Rs. 30	268	92	6,722	5,681	90	80	3,335	3,327	358	172	10,057	9,008	368	179	9,259	8,007
,, ,, 30 to ,, 50	25	14	1,384	1,505	20	11	755	1,121	45	25	2,139	2,626	40	41	2,633	3,017
,, ,, 50 to ,, 100	8	3	457	744	7	4	594	779	15	7	1,051	1,523	14	11	1,503	1,699
,, ,, 100 to ,, 250	..	4	294	563	..	1	94	129	..	5	388	692	4	3	632	919
,, ,, 250 to ,, 500	..	..	..	..	..	1	344	417	..	1	344	417	..	..	..	..
,, ,, 500 to ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,537	389	19,177	14,430	714	268	9,546	8,674	2,251	657	28,723	23,104	1,372	643	23,759	19,699

APPENDIX XIV.-A.—Statement showing the distribution of holdings of Government land in the different tracts of the Kurnool District—*cont.*

Class, *i.e.*, Pattas paying	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid
	NORTH ERRAMALA TRACT—*cont.*								NANNUR TRACT.							
	Nandyál Taluk.				Total.				Rámallakót Taluk.				Nandikótkur Taluk.			
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	1,548	483	11,633	7,020	2,554	892	21,365	13,177	182	73	1,657	1,200	331	151	2,352	2,244
From „ 10 to Rs. 30	341	223	9,104	8,641	649	402	18,363	16,648	96	50	2,449	2,429	192	142	4,736	5,698
„ „ 30 to „ 50	45	39	2,414	3,120	85	80	5,047	6,137	17	17	1,030	1,336	54	33	2,410	3,339
„ „ 50 to „ 100	27	17	2,271	2,888	41	28	3,774	4,487	16	14	1,609	2,067	42	31	3,292	4,913
„ „ 100 to „ 250	5	3	1,034	1,100	9	6	1,666	2,019	3	2	585	787	18	21	3,952	5,702
„ „ 250 to „ 500	..	..	..	..	..	..	..	..	1	1	489	591	4	..	764	1,234
„ „ 500 to „ 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Above „ 1,000	..	1	1,889	1,175	..	1	1,889	1,175	..	..	..	..	1	..	644	1,012
Total ..	1,966	766	28,345	23,944	3,338	1,409	52,104	43,643	315	157	7,819	8,410	642	378	18,150	24,142
	NANNUR TRACT—*cont.*								NANDIKOTKUR TRACT.							
	Nandyál Taluk.				Total.				Nandikotkur Taluk.				Nandyál Taluk.			
Under Rs. 10	134	66	1,015	899	647	290	5,024	4,343	2,517	1,077	21,697	17,126	383	201	3,418	2,267
From „ 10 to Rs. 30	59	45	1,435	1,755	347	237	8,620	9,882	1,436	699	35,052	37,002	97	81	3,181	2,750
„ „ 30 to „ 50	15	9	712	803	86	59	4,152	5,478	370	189	17,775	21,370	29	23	1,951	1,787
„ „ 50 to „ 100	5	6	586	648	63	51	5,487	7,628	233	112	18,117	23,532	5	22	1,689	1,831
„ „ 100 to „ 250	7	4	1,282	1,525	28	27	5,819	8,014	100	65	17,565	24,191	1	4	683	686
„ „ 250 to „ 500	..	..	..	..	5	1	1,253	1,825	10	9	4,145	5,953	..	..	..	..
„ „ 500 to „ 1,000	..	..	..	..	..	..	..	..	2	..	779	1,168	..	..	..	..
Above „ 1,000	..	..	..	..	1	..	644	1,012	..	..	..	..	..	..	..	..
Total ..	220	130	5,030	5,630	1,177	665	30,999	38,182	4,668	2,151	115,130	1,30,342	515	331	10,922	9,321
	NANDIKOTKUR TRACT—*cont.*				ATMAKUR TRACT.				NALLAMALA TRACT.							
	Total.				Nandikotkur Taluk.				Nandyál Taluk.				Sirvel Taluk.			
Under Rs. 10	2,900	1,278	25,115	19,393	1,139	427	8,611	7,869	1,390	568	8,881	8,950	1,860	679	13,133	10,403
From „ 10 to Rs. 30	1,533	780	38,233	39,752	610	285	12,834	15,015	449	235	9,513	11,287	512	202	13,757	11,112
„ „ 30 to „ 50	399	212	19,726	23,157	147	34	4,980	6,757	89	52	3,733	5,230	83	25	4,720	3,749
„ „ 50 to „ 100	238	134	19,806	25,363	81	22	4,750	6,748	29	34	3,109	4,154	24	19	3,061	2,953
„ „ 100 to „ 250	101	69	18,248	24,877	15	4	1,428	2,379	10	6	1,373	1,929	7	8	2,350	2,334
„ „ 250 to „ 500	10	9	4,145	5,953	..	..	..	..	..	..	..	..	..	..	..	..
„ „ 500 to „ 1,000	2	..	779	1,168	..	..	..	..	..	..	..	..	..	..	..	..
Above „ 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	5,183	2,482	126,052	1,39,663	1,992	772	32,603	38,768	1,967	895	26,609	31,550	2,486	933	37,021	30,551

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APPENDIX XIV-A.—Statement showing the distribution of holdings of Government land in the different tracts of the Kurnool District—*cont.*

Class, *i.e.*, Pattas paying	Nallamala Tract—*cont.*				Kunder Tract.											
	Total.				Nandyal Taluk.				Koilkuntla Taluk.				Sirvél Taluk.			
	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	3,250	1,247	22,014	19,353	1,367	862	7,389	9,933	2,890	1,220	12,358	18,896	732	328	5,219	5,632
From ,, 10 to Rs. 30	961	437	23,270	22,399	678	521	13,519	20,469	784	731	28,074	44,646	439	201	10,074	16,080
,, ,, 30 to ,, 50	172	77	8,453	8,979	223	175	9,941	15,619	514	297	18,171	30,410	154	105	6,875	9,183
,, ,, 50 to ,, 100	53	53	6,170	7,107	128	150	12,073	18,458	353	198	20,790	37,356	98	64	7,323	10,985
,, ,, 100 to ,, 250	17	14	3,723	4,263	63	98	15,583	24,223	105	103	16,217	29,790	49	51	8,973	14,174
,, ,, 250 to ,, 500	..	..	..	..	4	14	3,829	5,759	5	12	3,083	5,880	13	7	4,284	7,059
,, ,, 500 to ,, 1,000	..	..	..	..	1	2	1,422	2,055	3	1	1,340	2,499	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	4,453	1,828	63,630	62,101	2,464	1,822	63,756	96,516	4,654	2,562	100,033	1,69,477	1,489	756	42,748	63,113
	Kunder Tract—*cont.*				Owk Tract.				Chaygalmarri Tract.				Sagiler Tract.			
	Total.				Koilkuntla Taluk.				Sirvel Taluk.				Cumbum Taluk.			
Under Rs. 10	4,989	2,410	24,966	34,461	1,233	644	7,304	7,751	2,057	777	11,266	11,265	2,443	1,443	14,571	14,031
From ,, 10 to Rs. 30	1,901	1,453	51,667	81,195	538	358	8,011	13,290	725	402	13,584	18,333	458	312	8,597	11,614
,, ,, 30 to ,, 50	895	577	34,987	55,212	77	57	2,968	4,951	137	83	5,947	8,222	30	33	1,703	2,446
,, ,, 50 to ,, 100	579	412	40,186	66,799	39	26	2,205	3,995	62	48	5,007	6,847	10	1	531	661
,, ,, 100 to ,, 250	217	252	40,773	68,187	4	4	520	989	17	15	4,899	7,282	..	..	..	..
,, ,, 250 to ,, 500	22	38	11,196	18,698	2	..	264	606	..	4	550	1,172	..	..	..	..
,, ,, 500 to ,, 1,000	4	3	2,762	4,554	..	..	..	..	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	8,607	5,140	206,537	3,29,106	1,893	1,089	21,272	31,582	2,998	1,329	41,253	53,121	2,941	1,789	25,402	28,752
	Gundlakamma Tract.				Basinepalle Tract.				Cumbum Tract.				Vemulakota Tract.			
	Cumbum Taluk.				Cumbum Taluk.				Cumbum Taluk.				Cumbum Taluk.			
Under Rs. 10	2,607	1,445	17,037	15,188	925	469	8,864	4,223	896	405	2,031	6,037	287	197	1,956	1,948
From ,, 10 to Rs. 30	608	359	11,778	16,025	101	45	3,501	2,384	749	372	2,444	19,365	107	67	1,519	3,023
,, ,, 30 to ,, 50	80	60	3,937	5,136	3	3	244	207	103	56	711	5,821	9	5	283	499
,, ,, 50 to ,, 100	21	23	1,712	3,032	1	1	126	117	34	9	366	2,803	4	..	199	437
,, ,, 100 to ,, 250	2	3	727	578	..	..	..	..	3	2	45	538	..	..	..	..
,, ,, 250 to ,, 500	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
,, ,, 500 to ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	3,318	1,890	35,191	39,959	1,030	518	12,735	6,931	1,785	844	5,597	34,564	407	269	3,957	5,907

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APPENDIX XIV-A.—Statement showing the distribution of holdings of Government land in the different tracts of the Kurnool District—*cont.*

Class, *i.e.*, Pattas paying	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	VEMULAKOTA TRACT—*cont.*								DUPAD TRACT.			
	Márkápur Taluk.				Total.				Márkápur Taluk.			
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	1,119	556	8,076	7,236	1,406	753	10,032	9,184	4,504	2,324	45,112	27,515
From ,, 10 to Rs. 30	270	107	5,259	5,675	377	174	6,778	8,698	1,102	570	29,482	24,240
,, ,, 30 to ,, 50	23	9	1,023	1,189	32	14	1,306	1,688	129	69	5,982	7,415
,, ,, 50 to ,, 100	6	..	218	328	10	..	417	765	47	24	4,141	4,837
,, ,, 100 to ,, 250	1	..	67	113	1	..	67	113	4	5	678	1,310
,, ,, 250 to ,, 500	..	..	..	..	..	..	..	..	..	..	..	..
,, ,, 500 to ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,419	672	14,643	14,541	1,826	941	18,600	20,448	5,786	2,992	85,395	65,317

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Appendix XIV-B.—Statement showing proportion of holdings of different classes in the several tracts of the Kurnool District.

Percentages under pattas paying	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.	Single.	Joint.	Area held.	Assessment paid.
	Kurnool Tract.				Bellagal Tract.				Hosur Tract.				Piapalle Tract.				South Erramala Tract.			
	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.	NO.	NO.	ACS.	RS.
Under Rs. 10	35	12	16	12	54	13	36	27	41	10	20	14	61	14	51	38	63	15	51	38
From ,, 10 to Rs. 30 ..	25	11	34	32	19	7	37	39	22	8	30	27	16	5	37	41	12	6	35	39
,, ,, 30 to ,, 50 ..	6	3	17	18	3	1	13	16	7	3	18	20	2	1	6	10	2	1	8	11
,, ,, 50 to ,, 100 ..	4	2	18	20	2	1	10	13	5	2	21	25	1	..	4	8	1	..	4	7
,, ,, 100 to ,, 250 ..	1	1	12	14	..	..	4	5	1	1	9	11	..	..	2	3	..	..	1	3
,, ,, 250 to ,, 500 ..	..	..	2	2	..	..	..	..	..	..	1	2	..	..	..	..	..	..	1	2
,, ,, 500 to ,, 1,000 ..	..	..	1	2	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
Total ..	71	29	100	100	78	22	100	100	76	24	100	100	80	20	100	100	78	22	100	100
	North Erramala Tract.				Nannur Tract.				Nandikotkur Tract.				Atmakur Tract.				Nallamala Tract.			
Under Rs. 10	54	19	41	30	35	16	16	11	38	17	19	14	41	16	27	20	52	19	35	31
From ,, 10 to Rs. 30 ..	13	9	35	38	19	13	28	26	20	11	30	28	22	10	39	39	16	7	36	36
,, ,, 30 to ,, 50 ..	2	2	10	14	5	3	13	14	5	3	16	17	5	1	15	18	3	1	13	15
,, ,, 50 to ,, 100 ..	1	..	7	10	3	3	18	20	3	1	16	18	3	1	15	17	1	1	10	11
,, ,, 100 to ,, 250 ..	..	..	3	5	2	1	19	21	1	1	15	18	1	..	4	6	..	..	6	7
,, ,, 250 to ,, 500 ..	..	..	..	..	..	..	4	5	..	..	3	4	..	..	..	..	..	..	..	..
,, ,, 500 to ,, 1,000 ..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..
Above ,, 1,000	..	..	4	3	..	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	70	30	100	100	64	36	100	100	67	33	100	100	72	28	100	100	72	28	100	100
	Kunder Tract.				Owk Tract.				Chaygalmarri Tract.				Sagiler Tract.				Gundlakamma Tract.			
Under Rs. 10	36	18	12	11	41	22	34	24	48	18	27	21	52	30	57	49	50	28	48	38
From ,, 10 to Rs. 30 ..	14	11	25	25	18	12	38	42	17	9	33	34	10	6	34	40	12	7	34	40
,, ,, 30 to ,, 50 ..	6	4	17	16	3	2	14	16	3	2	14	16	1	1	7	9	1	1	11	13
,, ,, 50 to ,, 100 ..	4	3	19	20	1	1	10	13	2	1	13	13	..	..	2	2	..	1	5	8
,, ,, 100 to ,, 250 ..	2	2	20	21	..	..	3	3	..	..	12	14	..	..	..	..	..	..	2	1
,, ,, 250 to ,, 500 ..	..	..	6	6	..	..	1	2	..	..	1	2	..	..	..	..	..	..	..	..
,, ,, 500 to ,, 1,000 ..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	62	38	100	100	63	37	100	100	70	30	100	100	63	37	100	100	63	37	100	100
	Basinepalle Tract.				Cumbum Tract.				Vemulakota Tract.				Dupad Tract.							
Under Rs. 10	60	30	70	61	34	16	36	17	51	27	54	45	51	26	53	42				
From ,, 10 to Rs. 30 ..	7	3	27	34	29	14	44	56	14	6	37	42	13	7	34	37	..	..	..	..
,, ,, 30 to ,, 50 ..	..	..	2	3	4	2	13	17	1	1	7	8	2	1	7	11	..	..	..	..
,, ,, 50 to ,, 100 ..	..	..	1	2	1	..	6	8	..	..	2	4	..	..	5	8	..	..	..	..
,, ,, 100 to ,, 250 ..	..	..	..	..	..	..	1	2	..	..	..	1	..	..	1	2	..	..	..	..
Total ..	67	33	100	100	68	32	100	100	66	34	100	100	66	34	100	100	..	..	..	..

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Appendix XIV-C.—Statement showing average area and assessment of pattas in different tracts of the Kurnool District.

Average area and assessment of pattas paying	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.	Area.	Assessment.
	Kurnool.		Bellagal.		Hosur.		Piapalle.		South Errama-la.		North Errama-la.		Nannur.		Nandikotkur.		Atmakur.		Nallamala.	
	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.
Under Rs. 10	7	5 0	8	4 8	6	5 2	10	4 8	6	3 14	6	3 13	5	4 10	6	4 10	5	5 0	5	4 5
From ,, 10 to Rs. 30	20	17 7	20	16 10	16	17 3	25	17 7	19	17 0	17	15 13	15	16 15	17	17 3	14	16 12	17	16 0
,, ,, 30 to ,, 50	40	39 0	39	37 0	29	37 12	35	36 4	31	37 8	31	37 3	29	37 12	32	37 14	28	37 5	34	36 1
,, ,, 50 to ,, 100	68	70 3	62	65 11	49	68 14	47	66 3	48	69 4	55	65 0	48	66 14	53	68 3	46	65 8	58	67 1
,, ,, 100 to ,, 250	138	145 8	123	119 12	87	127 4	156	143 11	78	138 6	111	134 10	106	145 11	107	146 5	75	125 3	120	137 8
,, ,, 250 to ,, 500	332	334 3	177	422 0	235	345 8	..	..	344	417 0	..	..	209	304 3	218	313 5	..	..	..	..
,, ,, 500 to ,, 1,000	504	619 0	..	..	259	529 0	593	593 0	..	..	..	..	..	..	389	584 0	..	..	..	..
Above ,, 1,000	..	..	..	..	..	..	..	..	..	..	1,889	1,175 0	644	1,012 0	..	..	..	..	..	..
General average	21	19 8	14	11 2	16	19 0	14	8 14	10	7 15	11	9 3	17	20 12	16	18 4	12	14 0	10	9 14

	Kunnur.		Owk.		Chaygalmarri.		Sagiler.		Gundlakamma.		Basinepalle.		Cumbum.		Vemulakota.		Dupad.			
	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs.	rs. a.	acs	rs. a.	acs.	rs. a.		
Under Rs. 10	3	4 11	4	4 2	4	4 0	4	3 10	4	3 12	6	3 0	2	4 10		4 4	7	4 0		
From ,, 10 to Rs. 30	15	24 3	9	14 13	12	16 4	11	15 1	12	16 9	24	16 5	2	17 4	12	15 13	18	14 8		
,, ,, 30 to ,, 50	24	37 8	22	36 15	27	37 6	27	38 13	28	36 11	41	34 8	4	36 10	28	36 11	30	37 7		
,, ,, 50 to ,, 100	41	67 6	34	61 7	46	62 4	48	60 1	39	68 15	63	58 8	9	65 3	42	76 8	58	68 2		
,, ,, 100 to ,, 250	87	145 6	65	123 10	153	227 9	..	..	145	115 9	..	..	9	107 10	67	113 0	75	145 9		
,, ,, 250 to ,, 500	204	339 15	132	303 0	137	293 0	..	..	..	..	..	..	..	..	..	..	..	..		
,, ,, 500 to ,, 1,000	395	650 9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..		
General average	15	23 15	7	10 9	10	12 4	5	6 1	7	7 11	8	4 8	2	13 2	7	7 2	10	7 7		

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Appendix XV.—Statement showing the areas of land registered as sold in Kurnool for a series of years.

Circles.	1882.		1883.		1884.		1885.		1886.		Total.	
	Number of transactions.	Area sold.	Number of transactions.	Area sold.	Number of transactions.	Area sold.	Number of transactions.	Area sold.	Number of transactions.	Area sold.	Number of transactions.	Area sold.
		Acs. cts.		Acs. cts.		Acs. cts.		Acs. cts.		Acs. cts.		Acs. cts.
Kurnool	155	2,050 22	130	2,271 15	118	1,721 14	106	1,046 66	88	1,204 79	597	8,293 96
Rámallakót	..	..	..	..	..	..	46	451 70	74	638 28	120	1,089 98
Pattikonda	81	1,680 32	76	953 15	61	1,144 67	67	813 81	96	1,100 73	381	5,692 68
Piápalle	46	417 46	32	281 66	21	194 32	45	334 18	43	320 23	187	1,547 85
Owk	..	..	..	..	..	..	113	560 82	149	918 55	262	1,479 37
Koilkuntla	386	2,735 61	301	1,934 5	400	2,351 82	193	1,376 63	177	1,002 46	1,457	9,400 57
Sírvel	292	2,611 7	191	1,477 19	229	1,561 7	244	1,841 87	356	2,658 48	1,312	10,149 68
Nandyál	256	1,698 70	230	1,267 64	193	1,214 63	280	1,176 23	245	1,116 55	1,204	6,473 75
Kalwa	113	943 31	64	661 56	79	465 59	95	546 32	70	347 89	421	2,964 67
Nandikótkur	151	1,520 95	129	1,348 46	144	1,910 92	159	1,646 6	202	2,029 18	785	8,455 57
Atmakúr	75	657 78	51	318 94	58	536 47	75	722 50	55	485 88	314	2,721 57
Márkápur	86	437 58	88	335 49	105	881 59	157	562 27	197	648 91	633	2,865 84
Cumbum	297	1,210 76	312	1,063 15	274	810 7	413	1,059 9	278	938 23	1,574	5,081 30
Giddalur	..	..	..	..	..	..	311	852 93	343	892 10	654	1,745 03
Total ..	1,938	15,963 76	1,604	11,912 44	1,682	12,792 29	2,304	12,991 7	2,373	14,302 26	9,901	67,961 82
Sales in the whole district for which particulars are not available ..	..	576 30	..	975 84	..	704 25	..	780 84	..	327 29	..	3,364 52
Grand Total ..	..	16,540 06	..	12,888 28	..	13,496 54	..	13,771 91	..	14,629 55	..	71,326 34

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